6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R09-OAR-2020-0254; FRL-10023-52-Region 9]

Clean Air Plans; 2008 8-Hour Ozone Nonattainment Area Requirements; West Mojave Desert, California

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to approve, or conditionally approve, all or portions of the state implementation plan (SIP) revision submitted by the State of California to meet Clean Air Act requirements for the 2008 8-hour ozone national ambient air quality standards (NAAQS or "standards") in the West Mojave Desert ozone nonattainment area. The SIP revision addresses the nonattainment area requirements for the 2008 8-hour ozone NAAQS, including the requirements for an emissions inventory, emissions statements, attainment demonstration, reasonable further progress, reasonably available control measures, contingency measures, and motor vehicle emissions budgets. The EPA is proposing to approve the SIP revision as meeting all the applicable ozone nonattainment area requirements, except for contingency measures, for which we are proposing conditional approval.

DATES: Written comments must arrive on or before **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-R09-OAR-2020-0254 at *https://www.regulations.gov*. For comments submitted at Regulations.gov, follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from Regulations.gov. The EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions

(audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (i.e. on the web, cloud, or other file sharing system). For additional submission methods, please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section. For the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit *http://www.epa.gov/dockets/commenting-epa-dockets*. If you need assistance in a language other than English or if you are a person with disabilities who needs a reasonable accommodation at no cost to you, please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section.

FOR FURTHER INFORMATION CONTACT: Tom Kelly, EPA Region IX, (415) 972-3856, *kelly.thomasp@epa.gov*.

SUPPLEMENTAL INFORMATION: Throughout this document, "we," "us," and "our" refer to the EPA.

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I. Regulatory Context

A. Ozone Standards, Area Designations, and SIPs

Ground-level ozone pollution is formed from the reaction of volatile organic compounds (VOC) and oxides of nitrogen (NO_X) in the presence of sunlight.[1] These two pollutants, referred to as ozone precursors, are emitted by many types of sources, including on-and off-road motor vehicles and engines, power plants and industrial facilities, and smaller area sources such as lawn and garden equipment and paints.

Scientific evidence indicates that adverse public health effects occur following exposure to ozone, particularly in children and adults with lung disease. Breathing air containing ozone can reduce lung function and inflame airways, which can increase respiratory symptoms and aggravate asthma or other lung diseases.[2]

Under section 109 of the Clean Air Act (CAA or "Act"), the EPA promulgates NAAQS for pervasive air pollutants, such as ozone. The EPA has previously promulgated NAAQS for ozone in 1979 and 1997.[3] In 2008, the EPA revised and further strengthened the ozone NAAQS by setting the acceptable level of ozone in the ambient air at 0.075 parts per million (ppm) averaged over an 8-hour period.[4] Although the EPA further tightened the 8-hour ozone NAAQS to 0.070 ppm in 2015, this action relates to the requirements for the 2008 ozone NAAQS.[5]

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[1] The State of California typically refers to reactive organic gases (ROG) in its ozone-related submissions since VOC in general can include both reactive and unreactive gases. However, since ROG and VOC inventories pertain to common chemical species (e.g., benzene, xylene, etc.), we refer to this set of gases as VOC in this proposed rule.
[2] See "Fact Sheet – 2008 Final Revisions to the National Ambient Air Quality Standards for Ozone" dated March 2008.
[3] The ozone NAAQS promulgated in 1979 was 0.12 parts per million (ppm) averaged over a 1-hour period. See 44 FR 8202 (February 8, 1979). The ozone NAAQS promulgated in 1997 was 0.08 ppm averaged over an 8-hour period. See 62 FR 38856 (July 18, 1997).
[4] 73 FR 16436 (March 27, 2008).
[5] Information on the 2015 ozone NAAQS is available at 80 FR 65292 (October 26, 2015).

Following promulgation of a new or revised NAAQS, the EPA is required under CAA section 107(d) to designate areas throughout the country as attaining or not attaining the NAAQS. The "Los Angeles-San Bernardino Counties (West Mojave Desert), CA" area ("West Mojave Desert" or WMD) was designated as nonattainment for the 2008 ozone standards on May 21, 2012 and classified as "Severe-15."[6]

Under the CAA, after the EPA designates areas as nonattainment for a NAAQS, states with nonattainment areas are required to submit SIP revisions that provide for, among other things, attainment of the NAAQS within certain prescribed periods that vary depending on the severity of nonattainment. Areas classified as Severe-15 must attain the NAAQS within 15 years of the effective date of the nonattainment designation.[7]

In California, the California Air Resources Board (CARB) is the agency responsible for the adoption and submission to the EPA of California SIPs and SIP revisions, and it has broad authority to establish emissions standards and other requirements for mobile sources. Local and regional air pollution control districts in California are responsible for the regulation of stationary sources and are generally responsible for the development of regional air quality plans. In the West Mojave Desert, two agencies develop and adopt air quality management plans to address CAA planning requirements applicable to that region, the Antelope Valley Air Quality Management District (AVAQMD) and the Mojave Desert Air Quality Management District (MDAQMD) (collectively, "Districts"). Such plans are then submitted to CARB for adoption and submittal to the EPA as revisions to the California SIP.

B. The West Mojave Desert Ozone Nonattainment Area

The West Mojave Desert is located in northeast Los Angeles County and southwest San Bernardino County. For a precise description of the geographic boundaries of the area, see 40 CFR 81.305. The Los Angeles County portion of the WMD area is under the jurisdiction of the

[6] 77 FR 30088 (May 21, 2012).
[7] CAA section 181(a)(1), 40 CFR 51.1102 and 51.1103(a).

AVAQMD, and the San Bernardino County portion of the area is under the jurisdiction of the MDAQMD.

The population of the West Mojave Desert is approximately 868,380.[8] Ambient 8-hour ozone concentrations in the WMD are above the level of the 2008 8-hour ozone NAAQS. The area's maximum design value for the 2017–2019 period, based on certified data at the Phalen monitor (Air Quality System ID: 06-071-0012), is 0.096 ppm.[9]

The West Mojave Desert receives significant transport of ozone and ozone precursors from the South Coast Air Basin, and to a lesser extent, the San Joaquin Valley. To attain the 2008 ozone NAAQS, the WMD will depend on continued emissions reductions in those areas.[10]

C. CAA and Regulatory Requirements for 2008 8-Hour Ozone Nonattainment Area SIPs

States must implement the 2008 ozone standards under title I, part D of the CAA, which includes sections 171–179B of subpart 1, "Nonattainment Areas in General," and sections 181–185 of subpart 2, "Additional Provisions for Ozone Nonattainment Areas." To assist states in developing effective plans to address ozone nonattainment problems, in 2015 the EPA issued a SIP Requirements Rule (SRR) for the 2008 ozone standards ("2008 Ozone SRR") that addresses requirements for nonattainment areas, such as attainment dates, emissions inventories, attainment and reasonable further progress (RFP) demonstrations, and the transition from the 1997 8-hour ozone standards to the 2008 8-hour ozone standards and associated anti-backsliding requirements.[11] The 2008 Ozone SRR is codified at 40 CFR part 51, subpart AA. We discuss each of the CAA statutory and regulatory requirements for 2008 8-hour ozone plans in more detail in Section III of this document.

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[8] 8-Hour Ozone (2008) Designated Area/State Information, Green Book, EPA, accessed on November 19, 2020, Population Data from 2010, *https://www3.epa.gov/airquality/greenbook/hbtc.html*.

[9] Air Quality System (AQS) Design Value Report, O3_designvalues_2017_2019_final_5_26_20.pdf, in the docket for this proposed action. The AQS is a database containing ambient air pollution data collected by the EPA and state, local, and tribal air pollution control agencies from over thousands of monitors. Design values, defined to be consistent with the individual NAAQS as described in 40 CFR Part 50, are typically used to designate and classify nonattainment areas, as well as to assess progress towards meeting the NAAQS.

[10] See CARB, Staff Report, "CARB Review of the Mojave Desert AQMD and Antelope Valley AQMD Federal 75 ppb Ozone Attainment Plans for the Western Mojave Desert Nonattainment Area," April 21, 2017 ("CARB Staff Report"), Appendix B, "Weight of Evidence Analysis," B-28.

[11] 80 FR 12264 (March 6, 2015).

The EPA's 2008 Ozone SRR was challenged, and on February 16, 2018, the U.S. Court of Appeals for the D.C. Circuit ("D.C. Circuit") published its decision in *South Coast Air Quality Management District v. EPA* ("*South Coast II*")[12] vacating portions of the 2008 Ozone SRR. The only aspect of the *South Coast II* decision that affects this proposed action is the vacatur of the alternative baseline year for RFP plans. More specifically, the 2008 Ozone SRR required states to develop the baseline emissions inventory for RFP plans using the emissions inventory for the most recent calendar year for which states submit a triennial inventory to the EPA under subpart A of 40 CFR part 51, "Air Emissions Reporting Requirements," which was 2011. The 2008 Ozone SRR, however, allowed states to use an alternative year, between 2008 and 2012, for the baseline emissions inventory, provided the state demonstrated why the alternative baseline year was appropriate. In the *South Coast II* decision, the D.C. Circuit vacated the provisions of the 2008 Ozone SRR that allowed states to use an alternative baseline year for demonstrating RFP.

II. Submissions from the State of California to Address 2008 Ozone Standards Requirements in the West Mojave Desert

A. Summary of Submissions

1. 2016 WMD Attainment Plan

On June 2, 2017, CARB submitted a SIP revision to address the WMD's planning obligations as a Severe-15 nonattainment area for the 2008 ozone NAAQS.[13] The June 2, 2017 submittal includes attainment plans prepared by the AVAQMD ("AVAQMD Attainment Plan")[14] and the MDAQMD ("MDAQMD Attainment Plan"),[15] an accompanying staff report prepared by CARB ("CARB Staff Report"),[16] and other supporting documents. We refer to the

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[12] *South Coast Air Quality Management District v. EPA,* 882 F.3d 1138 (D.C. Cir. 2018). The term "*South Coast II*" is used in reference to the 2018 court decision to distinguish it from a decision published in 2006 also referred to as "*South Coast*." The earlier decision involved a challenge to the EPA's Phase 1 implementation rule for the 1997 ozone NAAQS. *South Coast Air Quality Management Dist.* v. *EPA,* 472 F.3d 882 (D.C. Cir. 2006).

[13] Letter dated June 2, 2017, from Richard Corey, CARB, to Alexis Strauss, EPA Region IX.

[14] AVAQMD, "AVAQMD Federal 75 ppb Ozone Attainment Plan (Western Mojave Desert Nonattainment Area)," adopted on March 21, 2017.

[15] MDAQMD, "MDAQMD Federal 75 ppb Ozone Attainment Plan (Western Mojave Desert Nonattainment Area)," adopted on February 27, 2017.

[16] CARB, Staff Report, "CARB Review of the Mojave Desert AQMD and Antelope Valley AQMD Federal 75 ppb Ozone Attainment Plans for the Western Mojave Desert Nonattainment Area," released April 21, 2017.

AVAQMD Attainment Plan and the MDAQMD Attainment Plan collectively as the Districts' "Attainment Plans," and we refer to all the documents submitted to the EPA on June 2, 2017 as the "2016 WMD Attainment Plan." The 2016 WMD Attainment Plan addresses the requirements for base year and projected future year emissions inventories, air quality modeling demonstrating attainment of the 2008 ozone NAAQS by the applicable attainment year, provisions demonstrating implementation of reasonably available control measures (RACM), provisions for transportation control strategies and measures, a demonstration of RFP, and contingency measures for failure to make RFP or to attain, among other requirements.

2. CARB's 2018 Updates to the California State Implementation Plan

On December 11, 2018, CARB submitted the "2018 Updates to the California State Implementation Plan" ("2018 SIP Update") to the EPA as a revision to the California SIP.[17] CARB adopted the 2018 SIP Update on October 25, 2018. CARB developed the 2018 SIP Update in response to the court's decision in *South Coast II* vacating the 2008 Ozone SRR with respect to the use of an alternate baseline year for demonstrating RFP, and to address contingency measure requirements in the wake of the court decision in *Bahr v. EPA*.[18] The 2018 SIP Update includes updates for 8 different California ozone nonattainment areas. We have previously approved portions of the 2018 SIP Update related to other nonattainment areas.[19] For the West Mojave Desert, the 2018 SIP Update includes an RFP demonstration using the required 2011 baseline year and revised motor vehicle emission budgets for the 2008 ozone NAAQS.[20]

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[17] Letter dated December 5, 2018, from Richard Corey, CARB, to Mike Stoker, EPA Region IX.

[18] *Bahr v. EPA*, 836 F.3d 1218 (9th Cir. 2016). In this case, the court rejected the EPA's longstanding interpretation of CAA section 172(c)(9) as allowing for early implementation of contingency measures. The court concluded that a contingency measure must take effect at the time the area fails to make RFP or attain by the applicable attainment date, not before. See also *Sierra Club v. EPA*, 985 F.3d 1055 (D.C. Cir. 2021), reaching a similar decision. These cases are addressed below in Section III.G of this document.

[19] See, e.g., 84 FR 11198 (March 25, 2019) (final approval of the San Joaquin Valley portion of the 2018 SIP Update) and 84 FR 52005 (October 1, 2019) (final approval of the South Coast portion of the 2018 SIP Update).

[20] CARB withdrew the 2016 WMD Attainment Plan RFP demonstration in a letter dated December 18, 2019, from Richard Corey, CARB, to Michael Stoker, EPA Region IX.

B. Clean Air Act Procedural Requirements for Adoption and Submission of SIP Revisions

1. Requirements

CAA sections 110(a)(1) and (2) and 110(l) require a state to provide reasonable public notice and opportunity for public hearing prior to the adoption and submission of a SIP or SIP revision. To meet this requirement, every SIP submittal should include evidence that adequate public notice was given and an opportunity for a public hearing was provided consistent with the EPA's implementing regulations in 40 CFR 51.102.

2. Summary of the State's Documentation

a. 2016 WMD Attainment Plan

On February 17, 2017, the AVAQMD published notice in a local newspaper of a public hearing to be held on March 21, 2017, for adoption of the AVAQMD Attainment Plan.[21] The District held the public hearing on March 21, 2017,[22] and signed a Board resolution adopting the plan that same day.[23] The District sent the plan to CARB on April 18, 2017.[24]

On January 27, 2017, the MDAQMD published notice in a local newspaper of a public hearing to be held on February 27, 2017, for adoption of the MDAQMD Attainment Plan.[25] The District held the public hearing on February 27, 2017,[26] and signed a Board resolution adopting the plan the same day.[27] The District sent the plan to CARB on April 3, 2017.[28]

On April 20, 2017, CARB provided notice of a public comment period and public hearing to be held on May 25, 2017, for the 2016 WMD Attainment Plan.[29] CARB adopted the 2016 WMD Attainment Plan by resolution at the May 25, 2017 hearing,[30] and submitted it to the

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[21] Appendix B of Final Staff Report, Adoption of AVAQMD Attainment Plan.
[22] Minutes of the Governing Board of the Antelope Valley Air Quality Management District, Lancaster, California, March 21, 2017.
[23] Resolution 17-01, March 21, 2017.
[24] Letter dated April 18, 2017, from Alan J. De Salvio, AVAQMD, to Richard Corey, CARB.
[25] Appendix B of Final Staff Report, MDAQMD Attainment Plan.
[26] Minutes of the Governing Board of the Mojave Desert Air Quality Management District, Victorville, California, February 27, 2017.
[27] Resolution 17-05, dated February 27, 2017.
[28] Letter dated April 3, 2017, from Alan J. De Salvio, MDAQMD, to Richard Corey, CARB.
[29] Notice of Public Meeting to Consider the 2016 Ozone State Implementation Plan for the Western Mojave Desert Nonattainment Area, California Air Resources Board, April 20, 2017.
[30] Board Resolution 17-12, May 25, 2017.

EPA on June 2, 2017.[31] The EPA notified CARB the submittal was complete on November 22, 2017.[32]

b. 2018 SIP Update

On September 21, 2018, CARB provided notice of a public comment period and public hearing to be held on October 25, 2018, for the 2018 SIP Update.[33] CARB adopted the 2018 SIP Update by resolution at the October 25, 2018 hearing,[34] and submitted it the to the EPA in a letter dated December 5, 2018, which was electronically transmitted to the EPA's State Planning Electronic Collaboration System on December 11, 2018.[35]

c. The EPA's Conclusions on the Submission Requirements for the WMD 2016 Attainment Plan

CARB has satisfied the applicable statutory and regulatory requirements for reasonable public notice and hearing prior to the adoption and submittal of the elements of the 2016 WMD Attainment Plan. Based on information provided in each SIP revision and summarized above, the EPA has determined that all hearings were properly noticed. Therefore, we find that the submittals of the 2016 WMD Attainment Plan meet the procedural requirements for public notice and hearing in CAA sections 110(a) and 110(l) and 40 CFR 51.102.

III. Evaluation of the 2016 WMD Attainment Plan and 2018 SIP Update

A. Emission Inventories

1. Statutory and Regulatory Requirements

Sections 172(c)(3) and 182(a)(1) of the CAA require states to submit for each ozone nonattainment area a "base year inventory" that is a comprehensive, accurate, current inventory of actual emissions from all sources of the relevant pollutant or pollutants in the area. In addition, the 2008 Ozone SRR requires that the inventory year be selected consistent with the baseline year for the RFP demonstration, which is usually the most recent calendar year for which a

[31] Letter dated June 2, 2017, from Richard Corey, CARB, to Alexis Strauss, EPA Region IX.
[32] Letter dated November 22, 2017, from Matt Lakin, EPA Region IX, to Richard Corey, CARB.
[33] Notice of Public Meeting to Consider the 2018 Updates to the California State Implementation Plan, September 21, 2018.
[34] Board Resolution 18-50, October 25, 2018.
[35] Letter dated December 5, 2018, from Richard Corey, CARB, to Mike Stoker, EPA Region IX.

complete triennial inventory is required to be submitted to the EPA under the Air Emissions Reporting Requirements.[36] The EPA has issued guidance on the development of base year and future year emissions inventories for 8-hour ozone and other pollutants.[37] Emissions inventories for ozone must include emissions of VOC and NO_X and represent emissions for a typical ozone season weekday.[38] States should include documentation explaining how the emissions data were calculated. In estimating mobile source emissions, states should use the latest emissions models and planning assumptions available at the time the SIP is developed.[39]

Future year baseline emissions inventories must reflect the most recent population, employment, travel, and congestion estimates for the area. In this context, "baseline" emissions inventories refer to emissions estimates for a given year and area that reflect rules and regulations and other measures that are already adopted. Future year baseline emissions inventories are necessary to show the projected effectiveness of SIP control measures. Both the base year and future year inventories are necessary for photochemical modeling to demonstrate attainment.

2. Summary of State's Submission

The 2016 WMD Attainment Plan includes base year (2012) and future year baseline inventories for NO_X and VOC for the West Mojave Desert.[40] Documentation for the inventories is found in Appendix A-2 of the CARB Staff Report.[41] The emissions inventories represent

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[36] 2008 Ozone SRR at 40 CFR 51.1115(a) and the Air Emissions Reporting Requirements at 40 CFR part 51 subpart A.

[37] "Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations," EPA-454/B-17-002, May 2017. At the time the 2016 WMD Attainment Plan was developed, the following EPA emissions inventory guidance applied: "Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations," EPA-454/R-05-001, August 2005.

[38] 40 CFR 51.1115(a) and (c), and 40 CFR 51.1100(bb) and (cc).

[39] 80 FR 12264, 12290 (March 6, 2015).

[40] The 2012 base year and future year baseline emissions inventories in the CARB Staff Report exclude non-anthropogenic "natural sources" emissions such as biogenics and geogenics. However, emissions from such natural sources are included in the emissions inventories used for the attainment demonstration because they affect ozone formation.

[41] The 2012 base year emissions inventory included in the CARB Staff Report supersedes and replaces a previous submittal of the 2012 base year emissions inventory for the West Mojave Desert in the "8-Hour Ozone State

average summer day emissions, consistent with the observation that ozone levels in West Mojave Desert are typically higher from May through October.[42] For stationary and area sources, the 2012 base year and future year inventories considered several of the Districts' rules, specifically including MDAQMD Rule 1461, "Portland Cement Kilns" (covering mineral processing), and rules from both Districts based on CARB's rules for consumer products, aerosol coatings,[43] and architectural coatings.[44] The inventory also specifically notes the incorporation of CARB's performance standards for gasoline dispensing hose permeation,[45] and revised vehicle refueling emission factors.[46] These District and CARB rules are noted in Table 5, "Stationary Source Control Rules and Regulations Included in the Inventory," of Appendix A-1 of the CARB Staff Report. The mobile source portions of both base year and projected future year inventories were developed using California's EPA-approved mobile source emissions model, EMFAC2014, for estimating on-road motor vehicle emissions.[47]

The 2016 WMD Attainment Plan includes emissions inventories for stationary sources, area sources, and on-road and off-road mobile sources.[48] Stationary sources refer to larger "point" sources that have a fixed geographic location. The 2018 SIP Update explains that 2012 "stationary source emissions reflect actual emissions reported from industrial point sources" and

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Implementation Plan Emission Inventory Submittal" (the "Multi-Area Emission Inventory"). The Multi-Area Emission Inventory was submitted by CARB on July 17, 2014 and later withdrawn on December 18, 2019. The Multi-Area Inventory included 2012 base year emissions inventories for 16 nonattainment areas, including the West Mojave Desert. Relative to the corresponding inventory for the West Mojave Desert in the Multi-Area Emission Inventory, the 2012 base year emissions inventory in the 2016 WMD Attainment Plan reflects updated stationary, area, and nonroad source calculations as well as an updated version of the EMFAC model for on-road motor vehicle estimates.

[42] Appendix A-2 of the CARB Staff Report. In contrast, the emissions inventory and projections in Appendix A and B of the Districts' Attainment Plans contain average daily emissions, not average summer day emissions.

[43] See California Code of Regulations 94522, "Limits and Requirements for Aerosol Coating Products," incorporated into the SIP on November 4, 2009 (74 FR 57074).

[44] As stated on the CARB website (https://ww2.arb.ca.gov/our-work/programs/coatings/architectural-coatings/scm-district-rulemaking-schedule, accessed on August 25, 2020), AVAQMD Rule 1113, adopted locally on June 18, 2013 and MDAQMD Rule 1113, adopted locally on April 23, 2012, implement California's 2007 suggested control measures for architectural coatings. These rules were incorporated into the SIP on December 8, 2015 (80 FR 76222) and December 8, 2015 (80 FR 76222), respectively.

[45] See *https://ww3.arb.ca.gov/vapor/gdf-emisfactor/attachment5.pdf*.

[46] See *https://ww2.arb.ca.gov/gasoline-dispensing-facility-emission-factors*.

[47] EMFAC is short for EMission FACtor.

[48] CARB Staff Report, Appendix A-2.

include stationary aggregate sources, such as gasoline dispensing facilities.[49] AVAQMD Rule 107, "Certification of Submissions and Emission Statements," and MDAQMD Rule 107, "Certification and Emission Statements," require all stationary sources within the nonattainment area that emit more than 25 tons per year (tpy) or more of VOC or NO_X to report and certify annual emissions. For the 2012 base year, CARB developed a list of stationary sources in Los Angeles and San Bernardino counties and their associated emissions. AVAQMD and MDAQMD separated the stationary sources within the WMD from those within their respective counties but outside the WMD.

Area sources include smaller emissions sources distributed across the nonattainment area, such as consumer products, architectural coatings, pesticides and herbicides, farming operations, and cooking. CARB and the District estimate emissions for area sources using surveys and information from other state and federal agencies. These estimates are updated with relevant factors such as population changes, demographic factors, and agency specific growth factors (e.g. for farming operations and use of herbicides and pesticides).[50]

On-road emissions inventories in the CARB Staff Report are calculated using CARB's EMFAC2014 model[51] and the travel activity data provided by the area's metropolitan planning organization, the Southern California Association of Governments (SCAG), in the "2016–2040 Regional Transportation Plan/Sustainable Communities Strategy."[52] CARB consulted with MDAQMD staff to estimate emissions from off-road equipment and area sources occurring in the nonattainment area, most often using human population as default surrogate for the quantity of emissions occurring in the WMD.[53] Future emissions forecasts are primarily based on

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[49] 2018 SIP Update, Appendix A, A-1.
[50] CARB Staff Report, see the discussion of areawide sources beginning on page A1-8.
[51] In December 2015, the EPA approved EMFAC2014 for SIP development and transportation conformity purposes in California. 80 FR 77337 (December 14, 2015). EMFAC2014 was the most recently approved version of the EMFAC model that was available at the time of preparation of the 2016 Attainment Plan. The EPA approved an updated version of the EMFAC model, EMFAC2017, for future SIP development and transportation purposes in California. 84 FR 41717 (August 15, 2019).
[52] CARB Staff Report, Appendix A-1.
[53] Id. at A1-3.

population and economic growth projections provided by SCAG; growth estimates from government agencies such as the U.S. Bureau of Labor Statistics, the U.S. Department of Agriculture, and CARB; forecasts from the Districts; and research studies. The growth factors for each emissions category are discussed in Appendix A-1 of the CARB Staff Report.

Table 1 below provides a summary of the CARB Staff Report's 2012 base year and future attainment year VOC and NO_X emissions estimates within the West Mojave Desert (average summer day). These inventories provide the basis for the control measure analysis and the attainment demonstration in the 2016 WMD Attainment Plan. Based on the inventory for 2012, stationary and area sources of VOC emissions are roughly equivalent to the combined on-road and off-road mobile source emissions. For NO_X emissions in 2012, on-road mobile sources contribute the highest fraction of emissions (37.11 tons per day (tpd) or 37.5 percent) followed by off-road (32.53 tpd or 32.9 percent), stationary (28.27 tpd or 28.6 percent), and area sources (1.05 tpd or 1.1 percent).

Table 1 - West Mojave Desert Nonattainment Area Base Year and Attainment Year Emissions Inventory Summary (Summer Season Average tpd)

Category	NO_X (2012)	NO_X (2026)	VOC (2012)	VOC (2026)
Stationary Sources	28.27	42.08	13.16	17.35
Area Sources	1.05	0.92	11.32	12.15
On-road Mobile	37.11	9.84	15.21	5.98
Off-road Mobile	32.53	25.53	7.09	4.99
Total	98.95	68.56	46.78	40.47

Source: Appendix A-2, CARB Staff Report. Due to rounding, the totals may not agree to the hundredth of a tpd.

3. The EPA's Review of the State's Submission

We have reviewed the 2012 base year emissions inventory in the 2016 WMD Attainment Plan and the inventory methodologies used by CARB and the District for consistency with CAA requirements and EPA guidance. First, as required by EPA regulations, we find that the 2012 inventory includes estimates for VOC and NO_X for a typical ozone season weekday, and that CARB has provided adequate documentation explaining how the emissions are calculated. Second, we find that the 2012 base year emissions inventory in the 2016 WMD Attainment Plan reflects appropriate emissions models and methodologies, and, therefore, represents a comprehensive, accurate, and current inventory of actual emissions during that year in the

WMD. Third, we find that selection of year 2012 for the base year emissions inventory is appropriate because it is consistent with the 2011 RFP baseline year (from the 2018 SIP Update) because both inventories are derived from a common set of models and methods. Therefore, the EPA is proposing to approve the 2012 emissions inventory in the 2016 WMD Attainment Plan as meeting the requirements for a base year inventory set forth in CAA section 182(a)(1) and 40 CFR 51.1115.

With respect to future year baseline projections, we have reviewed the growth and control factors and find them acceptable, and conclude that the future baseline emissions projections in the 2016 WMD Attainment Plan reflect appropriate calculation methods and the latest planning assumptions.

Furthermore, we note that the future year baseline projections account for emissions reductions from control measures in adopted state and local rules and regulations. As a general matter, the EPA will approve a SIP revision that takes emissions reduction credit for such control measures only where the EPA has approved the control measures as part of the SIP. Tables 1 and 2 in the technical support document (TSD) supporting this action document the approval of all rules within the West Mojave Desert. Table 5 of the CARB Staff Report documents the specific rules considered in the development of the emissions inventory.

With respect to mobile sources, the EPA has taken action in recent years to approve CARB mobile source regulations into the California SIP.[54] We therefore find that the future year baseline projections in the 2016 WMD Attainment Plan are properly supported by SIP-approved stationary and mobile source control measures.

B. Emissions Statements

1. Statutory and Regulatory Requirements

Section 182(a)(3)(B)(i) of the Act requires each state to submit a SIP revision requiring owners or operators of stationary sources of VOC or NO_X to provide the state with statements of

[54] See 81 FR 39424 (June 16, 2016), 82 FR 14446 (March 21, 2017), and 83 FR 23232 (May 18, 2018).

actual emissions from such sources. Statements must be submitted at least every year and must contain a certification that the information contained in the statement is accurate to the best knowledge of the individual certifying the statement. Section 182(a)(3)(B)(ii) of the Act allows states to waive the emission statement requirement for any class or category of stationary sources that emit less than 25 tpy of VOC or NO_X, if the state provides an inventory of emissions from such class or category of sources as part of the base year or periodic inventories required under CAA sections 182(a)(1) and 182(a)(3)(A), based on the use of emission factors established by the EPA or other methods acceptable to the EPA.

The preamble of the 2008 Ozone SRR states that if an area has a previously approved emissions statement rule for the 1997 ozone NAAQS or the 1-hour ozone NAAQS that covers all portions of the nonattainment area for the 2008 ozone NAAQS, such rule should be sufficient for purposes of the emissions statement requirement for the 2008 ozone NAAQS.[55] The state should review the existing rule to ensure it is adequate and, if so, may rely on it to meet the emissions statement requirement for the 2008 ozone NAAQS. Where an existing emissions statement requirement is still adequate to meet the requirements of this rule, states can provide the rationale for that determination to the EPA in a written statement in the SIP to meet this requirement. States should identify the various requirements and how each is met by the existing emissions statement program. Where an emissions statement requirement is modified for any reason, the state must provide the revisions to the emissions statement as part of its SIP.

2. Summary of the State's Submission

The 2016 WMD Attainment Plan addresses compliance with the emissions statement requirement in CAA section 182(a)(3)(B) for the 2008 ozone NAAQS by reference to AVAQMD Rule 107 and MDAQMD Rule 107.[56] These rules require, among other things, emissions reporting within the West Mojave Desert from all stationary sources of NO_X and VOC

[55] 80 FR 12264, at 12291 (March 6, 2015).
[56] Addendum A to Appendix D and Addendum A to Appendix E of the CARB Staff Report.

with emissions over 25 tpy.[57] The EPA approved AVAQMD Rule 107 on April 11, 2013 (78 FR 21545) and MDAQMD Rule 107 on May 26, 2004 (69 FR 29880) as revisions to each District's portion of the California SIP. AVAQMD and MDAQMD letters to CARB state that these rules continue to meet the emission statement requirements of CAA section 182(a)(3)(B) and that the Districts rely on these rules to meet the emissions statement requirements for the 2008 ozone standards.[58]

3. The EPA's Review of the State's Submission

For this action, we have reviewed AVAQMD Rule 107 and MDAQMD Rule 107 for compliance with the specific requirements for emissions statement rules under CAA section 182(a)(3)(B). We agree with the Districts' findings: that these rules apply within the entire ozone nonattainment area and that the nonattainment area is the same for both the 1997 Ozone NAAQS and the 2008 ozone NAAQS; that the rules apply to all stationary sources of VOC and NO_X, except those emitting less than 25 tpy for which the Districts have waived the requirement (consistent with CAA section 182(a)(3)(B)(ii)); and that the rules require reporting, on an annual basis, of total emissions of VOC and NO_X. We also find that AVAQMD Rule 107 and MDAQMD Rule 107 require certification that the information provided to the Districts is accurate to the best knowledge of the individual certifying the emissions data, as required under CAA section 182(a)(3)(B).

Therefore, we propose to approve the emissions statement element of the 2016 WMD Attainment Plan as meeting the requirements of CAA section 182(a)(3)(B) and the 40 CFR 51.1102.

[57] Id.
[58] Appendix D1 and D2 and Appendix E1 and E1 of the CARB Staff Report.

C. Reasonably Available Control Measures Demonstration

1. Statutory and Regulatory Requirements

CAA section 172(c)(1) requires that each attainment plan provide for the implementation of all RACM as expeditiously as practicable (including such reductions in emissions from existing sources in the area as may be obtained through implementation of reasonably available control technology (RACT)), and also provide for attainment of the NAAQS. The 2008 Ozone SRR requires that, for each nonattainment area required to submit an attainment demonstration, the state concurrently submit a SIP revision demonstrating that it has adopted all RACM necessary to demonstrate attainment as expeditiously as practicable and to meet any RFP requirements.[59]

The EPA has previously provided guidance interpreting the RACM requirement in the General Preamble for the Implementation of the Clean Air Act Amendments of 1990 ("General Preamble") and in a memorandum entitled "Guidance on the Reasonably Available Control Measures (RACM) Requirement and Attainment Demonstration Submissions for Ozone Nonattainment Areas."[60] In summary, to address the requirement to adopt all RACM, states should consider all potentially reasonable control measures for source categories in the nonattainment area to determine whether they are reasonably available for implementation in that area and whether they would, if implemented individually or collectively, advance the area's attainment date by one year or more.[61] Any measures that are necessary to meet these requirements that are not already either federally promulgated, or part of the state's SIP, or

[59] 40 CFR 51.1112(c).
[60] General Preamble, 57 FR 13498 at 13560 (April 16, 1992); memorandum dated November 30, 1999, from John Seitz, Director, OAQPS, to EPA Regional Air Directors, Regions I-X, Subject: "Guidance on the Reasonably Available Control Measures (RACM) Requirement and Attainment Demonstration Submissions for Ozone Nonattainment Areas."
[61] Id. See also 44 FR 20372 (April 4, 1979), and memorandum dated December 14, 2000, from John S. Seitz, Director, OAQPS, to Regional Air Directors, titled "Additional Submission on RACM From States with Severe One-Hour Ozone Nonattainment Area SIPs."

otherwise creditable in the SIP, must be submitted in enforceable form as part of the state's attainment plan for the area.[62]

CAA section 172(c)(6) requires that nonattainment area plans include enforceable emission limitations, and such other control measures, means or techniques (including economic incentives such as fees, marketable permits, and auctions of emission rights), as well as schedules and timetables for compliance, as may be necessary or appropriate to provide for timely attainment of the NAAQS.[63] Under the 2008 Ozone SRR, all control measures needed for attainment must be implemented no later than the beginning of the attainment year ozone season.[64] The attainment year ozone season is defined as the ozone season immediately preceding a nonattainment area's outermost attainment date.[65]

2. Summary of the State's Submission

a. The Districts' RACM Analysis

The AVAQMD and MDAQMD Attainment Plans explain that they incorporate all RACM, and that the Districts have adopted or committed in the Attainment Plans to adopt all such measures.[66] The Plans note the Districts' reviews of stationary source rules conducted during the development of the RACT SIPs submitted to the EPA in 2015,[67] and set out the Districts' schedules for adoption of rules identified in those reviews.[68] The CARB Staff Report

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[62] For ozone nonattainment areas classified as Moderate or above, CAA section 182(b)(2) also requires implementation of RACT for all major sources of VOC and for each VOC source category for which the EPA has issued a Control Techniques Guideline (CTG). CAA section 182(f) requires that RACT under section 182(b)(2) also apply to major stationary sources of NO_X. In Extreme areas, a major source is a stationary source that emits or has the potential to emit at least 10 tpy of VOC or NO_X (see CAA section 182(e) and (f)). Under the 2008 Ozone SRR, states were required to submit SIP revisions meeting the RACT requirements of CAA sections 182(b)(2) and 182(f) no later than 24 months after the effective date of designation for the 2008 Ozone NAAQS and to implement the required RACT measures as expeditiously as practicable but no later than January 1 of the 5th year after the effective date of designation (*see* 40 CFR 51.1112(a)). California submitted the CAA section 182 RACT SIP for AVAQMD and MDAQMD on October 23, 2015 and September 9, 2015, respectively. The EPA conditionally approved these submissions at 82 FR 46923 (October 10, 2017) and 83 FR 5921 (February 12, 2018).

[63] See also CAA section 110(a)(2)(A).

[64] 40 CFR 51.1108(d).

[65] 40 CFR 51.1100(h).

[66] AVAQMD Attainment Plan, 6–7, and MDAQMD Attainment Plan, 7.

[67] "2015 8-Hour Ozone Reasonably Available Control Technology (RACT) SIP Analysis: Antelope Valley Air Quality Management District" and "2015 8-Hour Ozone Reasonably Available Control Technology (RACT) SIP Analysis: Mojave Desert Air Quality Management District." The EPA conditionally approved these submissions at 82 FR 46923 (October 10, 2017) and 83 FR 5921 (February 12, 2018), respectively.

[68] AVAQMD Attainment Plan, 17, and MDAQMD Attainment Plan, 19.

includes a further RACM assessment from each District confirming that the Districts have examined existing control measures and determined that no additional RACT or mobile source controls will advance the attainment date for the West Mojave Desert for the 2008 ozone standard.[69] These assessments also note that photochemical modeling shows the WMD would attain the ozone NAAQS if not for upwind emissions from the South Coast Air Basin and San Joaquin Valley.[70]

b. CARB'S RACM Analysis

Source categories for which CARB has primary jurisdiction for reducing emissions in California include most new and existing on- and off-road engines and vehicles, motor vehicle fuels, and consumer products. CARB's RACM assessment is contained in the Appendix E, "Ozone RACM Assessment," of both the AVAQMD and MDAQMD Attainment Plans. Appendix F, "CARB Adopted Mobile Source Programs," of these attainment plans also includes a general description of CARB's key mobile source regulations and programs and a comprehensive table listing on- and off-road mobile source regulatory actions taken by CARB from 1985 through 2016. The RACM assessment contains CARB's evaluation of mobile source and other statewide control measures that reduce emissions of NO_X and VOC in the WMD.

Given the need for substantial emissions reductions from mobile and area sources to meet the NAAQS in California nonattainment areas, CARB has established stringent control measures for on-road and off-road mobile sources and the fuels that power them. California has unique authority under CAA section 209 (subject to a waiver by the EPA) to adopt and implement new emission standards for many categories of on-road vehicles and engines, and new and in-use off-road vehicles and engines.

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[69] CARB Staff Report, Appendix D-3 and E-3. See also CARB Staff Report, 10.

[70] CARB Staff Report, Appendix D-3 and E-3. This finding is supported by Appendix B of the CARB Staff Report, which contains a conceptual model explaining the formation of ozone in the WMD, and the heavy influence of transport from the South Coast Air Basin.

CARB's mobile source program extends beyond regulations that are subject to the waiver or authorization process set forth in CAA section 209, to include standards and other requirements to control emissions from in-use heavy-duty trucks and buses, gasoline and diesel fuel specifications, and many other types of mobile sources. Generally, these regulations have been submitted and approved as revisions to the California SIP.[71]

The Districts' Attainment Plans include CARB's RACM analysis for mobile source measures in the West Mojave Desert. In this analysis, CARB concludes:

> There are no reasonable regulatory control measures excluded from use in this plan; therefore, there are no emissions reductions associated with unused regulatory control measures. As a result, California's mobile source control programs fully meet the requirements for RACM.[72]

c. Local Jurisdictions' RACM Analysis and Transportation Control Measures

The supplemental RACM assessments included as addendums to appendices D and E of the CARB Staff Report address the Districts' RACM findings, including for transportation control measures (TCMs). These addendums state that the Districts examined existing control measures and determined that controls from RACT and mobile source emission control programs will not advance the West Mojave Desert's attainment year for the 2008 ozone standards.[73]

3. The EPA's Review of the State's Submission

The TSD for this action includes additional analysis to evaluate the Districts' and CARB's RACM assessments.[74] In that analysis, we estimate that a 1.2 tpd reduction of NO_X emissions would be necessary to advance attainment by one year from 2026 to 2025, and conservatively identify no more than 1.04 tpd of additional reductions that could be achieved through implementation of potential RACM for stationary sources. Based on this analysis, we

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[71] See, e.g., the EPA's approval of standards and other requirements to control emissions from in-use heavy-duty diesel-powered trucks, at 77 FR 20308 (April 4, 2012), revisions to the California on-road reformulated gasoline and diesel fuel regulations at 75 FR 26653 (May 12, 2010), and revisions to the California motor vehicle inspection and maintenance program at 75 FR 38023 (July 1, 2010).
[72] AVAQMD Attainment Plan, Appendix E-7; MDAQMD Attainment Plan, Appendix E-7.
[73] CARB Staff Report, Appendix D-3 and E-3.
[74] Technical Support Document, Clean Air Plans; 2008 8-Hour Ozone Nonattainment Area Requirements; West Mojave Desert, California, U.S. EPA Region IX, September 2020.

agree with the Districts' and CARB's conclusion that there are no additional RACM that would advance attainment of the 2008 ozone standards in the WMD by at least one year.

We also find that CARB's consumer products program comprehensively addresses emissions from consumer products in the WMD. CARB measures are more stringent than the EPA's consumer products regulation promulgated in 1998,[75] and generally exceed the controls in place throughout other areas of the country. We agree with CARB's conclusion that its mobile source regulations include all reasonably available controls.

For the WMD, given the significant influence of pollutant transport from the South Coast Air Basin and the minimal and diminishing emissions benefits generally associated with TCMs, no new TCMs implemented in the WMD, alone or in combination with potential additional rules, would contribute to advancing the attainment date in the WMD by one year. Therefore, no new TCMs are required to satisfy the RACM requirement in the WMD.

For the foregoing reasons, and as addressed more fully in the TSD for this action, we propose to find that the 2016 Attainment Plan provides for the implementation of all RACM as required by CAA section 172(c)(1) and 40 CFR 51.1112(c).

D. Attainment Demonstration

1. Statutory and Regulatory Requirements

An attainment demonstration consists of the following: (1) technical analyses, such as base year and future year modeling, to locate and identify sources of emissions that are contributing to violations of the ozone NAAQS within the nonattainment area (i.e., analyses related to the emissions inventory for the nonattainment area and the emissions reductions necessary to attain the standard); (2) a list of adopted measures (including RACT controls) with schedules for implementation and other means and techniques necessary and appropriate for demonstrating RFP and attainment as expeditiously as practicable but no later than the outside attainment date for the area's classification; (3) a RACM analysis; and (4) contingency measures

[75] 63 FR 48819 (September 11, 1998).

required under sections 172(c)(9) and 182(c)(9) of the CAA that can be implemented without further action by the state or the EPA to cover emissions shortfalls in RFP plans and failures to attain.[76] This subsection of this proposed rule addresses the first two components of the attainment demonstration—the technical analyses and a review of adopted measures. Section III.C of this document, "Reasonably Available Control Measures Demonstration," addresses the RACM component, and section III.G, "Contingency Measures," addresses the contingency measures component of the attainment demonstration in the Attainment Plans.

With respect to the technical analyses, section 182(c)(2)(A) of the CAA requires that a plan for an ozone nonattainment area classified "Serious" or above include a "demonstration that the plan . . . will provide for attainment of the ozone [NAAQS] by the applicable attainment date. This attainment demonstration must be based on photochemical grid modeling or any other analytical method determined . . . to be at least as effective." The attainment demonstration predicts future ambient concentrations for comparison to the NAAQS, making use of available information on measured concentrations, meteorology, and current and projected emissions inventories of ozone precursors, including the effect of control measures in the plan. Areas classified Severe-15 for the 2008 ozone NAAQS must demonstrate attainment as expeditiously as practicable, but no later than 15 years after the effective date of designation as nonattainment. The WMD was designated nonattainment for the 2008 ozone NAAQS effective July 20, 2012,[77] and accordingly must demonstrate attainment of the standards by no later than July 20, 2027.[78] An attainment demonstration must show attainment of the standards for a full calendar year before the attainment date, so in practice, Severe-15 nonattainment areas must demonstrate attainment no later than 2026.

The EPA's recommended procedures for modeling ozone as part of an attainment demonstration are contained in "Modeling Guidance for Demonstrating Attainment of Air

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[76] 78 FR 34178, 34184 (June 6, 2013), the EPA's proposed rule for implementing the 2008 ozone NAAQS.
[77] 77 FR 30088 (May 21, 2012).
[78] 80 FR 12264 (March 6, 2015).

Quality Goals for Ozone, $PM_{2.5}$, and Regional Haze" ("Modeling Guidance").[79] The Modeling Guidance includes recommendations for a modeling protocol, model input preparation, model performance evaluation, use of model output for the numerical NAAQS attainment test, and modeling documentation. Air quality modeling is performed using meteorology and emissions from a base year, and the predicted concentrations from this base case modeling are compared to air quality monitoring data from that year to evaluate model performance. Once the model performance is determined to be acceptable, future year emissions are simulated with the model. The relative (or percent) change in modeled concentration due to future emissions reductions provides a relative response factor (RRF). Each monitoring site's RRF is applied to its monitored base year design value to provide the future design value for comparison to the NAAQS. The Modeling Guidance also recommends supplemental air quality analyses, which may be used as part of a weight of evidence (WOE) analysis. A WOE analysis corroborates the attainment demonstration by considering evidence other than the main air quality modeling attainment test, such as trends and additional monitoring and modeling analyses.

The Modeling Guidance also does not require a particular year to be used as the base year for 8-hour ozone plans.[80] The Modeling Guidance states that the most recent year of the National Emissions Inventory may be appropriate for use as the base year for modeling, but that other years may be more appropriate when considering meteorology, transport patterns, exceptional events, or other factors that may vary from year to year.[81] Therefore, the base year used for the attainment demonstration need not be the same year used to meet the requirements for emissions inventories and RFP.

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[79] "Modeling Guidance for Demonstrating Attainment of Air Quality Goals for Ozone, $PM_{2.5}$, and Regional Haze," EPA 454/R-18-009 (November 2018); available at *https://www.epa.gov/scram/state-implementation-plan-sip-attainment-demonstration-guidance*. See also December 2014 draft of this guidance, available at the same website. The December 2014 draft guidance was available during development of the Plan; the final version differs mainly in organization, and in updates to the regional haze portion and to other document references. Additional EPA modeling guidance can be found in 40 CFR 51 Appendix W, Guideline on Air Quality Models, 82 FR 5182 (January 17, 2017); available at *https://www.epa.gov/scram/clean-air-act-permit-modeling-guidance*.

[80] Modeling Guidance at section 2.7.1, 35.

[81] Id.

With respect to the list of adopted measures, CAA section 172(c)(6) requires that nonattainment area plans include enforceable emissions limitations, and such other control measures, means or techniques (including economic incentives such as fees, marketable permits, and auctions of emission rights), as well as schedules and timetables for compliance, as may be necessary or appropriate to provide for timely attainment of the NAAQS.[82] Under the 2008 Ozone SRR, all control measures needed for attainment must be implemented no later than the beginning of the attainment year ozone season.[83] The attainment year ozone season is defined as the ozone season immediately preceding a nonattainment area's outermost attainment date.[84] For the West Mojave Desert, the outermost attainment year is 2026.

2. Summary of the State's Submission

a. Photochemical Modeling

The 2016 WMD Attainment Plan includes photochemical modeling for the 2008 ozone NAAQS. The South Coast Air Quality Management District (SCAQMD) performed the air quality modeling for the 2016 WMD Attainment Plan, as part of the Final 2016 Air Quality Management Plan for the South Coast Air Quality Management District ("SCAQMD 2016 AQMP").[85] The modeling relies on a 2012 base year and demonstrates attainment of the 2008 ozone NAAQS by the applicable Severe-15 area attainment year (i.e., 2026).

The modeling and modeled attainment demonstration are described in Chapter 4, "Attainment Demonstration," of the 2016 WMD Attainment Plan and in Appendix D, "Western Mojave Desert Modeling Analysis." The AVAQMD Attainment Plan and the MDAQMD Attainment Plan also reference Appendix V of the SCAQMD 2016 AQMP for additional information on the modeled attainment demonstration.

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[82] See also CAA section 110(a)(2)(A).
[83] 40 CFR 51.1108(d).
[84] 40 CFR 51.1100(h).
[85] Appendix V, Final 2016 Air Quality Management Plan, March 2017, SCAQMD. See AVAQMD Attainment Plan, 31, and MDAQMD Attainment Plan, 33.

The modeling protocol is in Chapter 2, "Modeling Protocol," of Appendix V of the SCAQMD 2016 AQMP and contains all the elements recommended in the Modeling Guidance. Those include the following: selection of model, time period to model, modeling domain, and model boundary conditions and initialization procedures; a discussion of emissions inventory development and other model input preparation procedures; model performance evaluation procedures; selection of days; and other details for calculating RRFs. Appendix V of the SCAQMD 2016 AQMP also provides the coordinates of the modeling domain and thoroughly describes the development of the modeling emissions inventory, its spatial and temporal allocation, its temperature dependence, and quality assurance procedures.

The modeling analysis uses version 5.0.2 of the Community Multiscale Air Quality (CMAQ) photochemical model, developed by the EPA. To prepare meteorological input for CMAQ, the modeling analysis uses the Weather and Research Forecasting model version 3.6 (WRF) from the National Center for Atmospheric Research. CMAQ and WRF are both recognized in the Modeling Guidance as technically sound, state-of-the-art models. The areal extent and the horizontal and vertical resolution used in these models are adequate for modeling West Mojave Desert ozone.

The SCAQMD assessed the performance of the WRF meteorological model through a series of simulations, and the SCAQMD concluded that the daily WRF simulation for 2012 provided representative meteorological fields that characterized the observed conditions well. The SCAQMD's conclusions are supported by hourly time series graphs of wind speed, direction, and temperature.[86]

Ozone model performance statistics are described in Appendix D, "West Mojave Desert Community Multiscale Air Quality Model Performance Analysis," of both the AVAQMD and MDAQMD Attainment Plans, which include tables of statistics recommended in the Modeling

[86] Attachment 1 ("WRF Model Performance Time Series"), Chapter 3 ("Meteorological Modeling and Sensitivity Analyses"), Appendix V ("Modeling and Attainment Demonstration") of the 2016 SCAQMD AQMP.

Guidance for 8-hour daily maximum ozone for the WMD. This section presents hourly time series, as well as density scatter plots and plots of bias against concentration. Note that because only relative changes are used from the modeling, the overprediction or underprediction of absolute ozone concentrations does not mean that future concentrations will be overestimated or underestimated.

After model performance for the 2012 base case was accepted, the model was applied to develop RRFs for the attainment demonstration. This entailed running the model with the same meteorological inputs as before, but with adjusted emissions inventories to reflect the expected changes between 2012 and the 2026 attainment year. The base year or "reference year" modeling inventory was the same as the inventory for the modeling base case. The 2026 inventory projects the base year into the future by including the effect of economic growth and emissions control measures. The set of 153 days from May 1 through September 30, 2012, was simulated and analyzed to determine daily 8-hour average maximum ozone concentrations for the 2020 emissions inventory. To develop the RRFs for the 2008 ozone NAAQS, only the top 10 days were used.

The Modeling Guidance addresses attainment demonstrations with ozone NAAQS based on 8-hour averages. For the 2008 ozone NAAQS, Appendix D of the 2016 WMD Attainment Plan includes the attainment test procedure consistent with the Modeling Guidance. The RRFs were calculated as the ratio of future to base year concentrations. The resulting RRFs were then applied to 2012 weighted base year design values[87] for each monitor to arrive at a 2026 future year design value.[88] The 2016 WMD Attainment Plan narrowly projects that the West Mojave Desert will reach modeled attainment in 2023, with the highest ozone design value of 0.0759

[87] The Modeling Guidance recommends that RRFs be applied to the average of three three-year design values centered on the base year, in this case the design values for 2010-2012, 2011-2013, and 2012-2014. This amounts to a 5-year weighted average of individual year 4th-high concentrations, centered on the base year of 2012, and so is referred to as a weighted design value.
[88] Table 5 of Appendix A-1 of the CARB Staff Report.

ppm at the Phelan monitor site (station number: 06-071-0012); this value demonstrates attainment of the corresponding 2008 ozone NAAQS of 0.075 ppm.[89]

Appendix B of the CARB Staff Report presents a WOE analysis with further discussion of the modeling for the area. The WOE analysis includes the following: an evaluation of ambient ozone trends; precursor emissions trends for the region (i.e., the South Coast Air Basin, San Joaquin Valley, and the WMD); an evaluation of diurnal ozone monitoring trends; and a conceptual model that describes the conditions that create the exceedances of the 2008 ozone NAAQS. These evaluations complement the photochemical modeling analysis for the area and show that the area's timely attainment is dependent on continuing future reductions from implementation of control measures in neighboring upwind nonattainment areas. The WOE analysis concludes that, based on these upwind reductions from neighboring nonattainment areas, the WMD will attain the 2008 ozone standard by 2026.[90]

Finally, Appendix D of each of the Districts' Attainment Plans includes an unmonitored area analysis for the 2008 ozone NAAQS to assess the attainment status of locations other than monitoring sites. The unmonitored area analysis in the 2016 WMD Attainment Plan shows concentrations below the 2008 ozone NAAQS for all locations.[91]

b. Control Strategy

The control strategy for attainment of the 2008 ozone NAAQS in the WMD relies on timely attainment in 2023 of the 1997 ozone NAAQS in the upwind Los Angeles-South Coast Air Basin,[92] which is the same year the WMD model shows attainment. The attainment plan for the 2008 ozone NAAQS for the South Coast Air Basin, which has been previously approved by the EPA, projects a 277 tpd reduction in NO_X and a 121 tpd reduction in VOC from 2012 base

[89] Appendix P of 40 CFR Part 50 for a discussion of reporting and handling procedures for the primary and secondary ozone standards that discusses truncating the third digit to the right of the decimal place.
[90] Appendix B, CARB Staff Report, B-30. The TSD for this action includes additional discussion of the modeled attainment demonstration and WOE analysis that support this conclusion.
[91] Figure 3: 2023 Predicted 8-hr Ozone Design Values, Appendix D, of both districts Attainment Plans.
[92] Appendix B, CARB Staff Report, B-2.

year emissions (522 tpd for NO_X and 500 tpd for VOC).[93] In addition, the 2008 ozone attainment plan for the San Joaquin Valley, which has also been previously approved by the EPA, projects a 214.6 tpd reduction of NO_X and 34.4 tpd reduction of VOC in 2023, from 2012 base year emissions (339.6 tpd for NO_X and 337.3 tpd for VOC in 2011).[94] Both upwind areas continue to show emission reductions through 2026 and beyond.

Within the WMD, the control strategy for attainment of the 2008 ozone NAAQS in the 2016 WMD Attainment Plan relies primarily on emissions reductions from baseline (i.e., already-adopted) measures. These baseline control measures include the Districts' stationary source rules,[95] and CARB's mobile source and consumer product rules adopted through 2016, as listed in Appendix F of the 2016 WMD Attainment Plan, "CARB Adopted Mobile Source Programs." The attainment demonstration and base year emissions inventory use a 2012 base year (101.09 tpd of NO_X and 43.69 tpd of VOC), and consistent with *South Coast II*, the RFP demonstration relies on a 2011 baseline year.[96] The attainment year emissions estimate for the attainment demonstration is the same throughout the 2016 WMD Attainment Plan and 2018 SIP Update (68.5 tpd of NO_X and 40.5 tpd of VOC) and represents a 30.3 percent NO_X reduction and a 13.4 percent VOC reduction from the 2012 emissions inventory base year emissions.

c. Attainment Demonstration

Chapter 4 of the Districts' Attainment Plans describes the attainment demonstration in general terms, including photochemical modeling results. Chapter 4 references Appendix V of the SCAQMD 2016 AQMP, which provides information on the modeling protocol. Appendix D

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[93] Approval of Air Quality Implementation Plans; California; South Coast Air Basin; 1-Hour and 8-Hour Ozone Nonattainment Area Requirements, Proposed Rule, 84 FR 28132 (June 17, 2019). EPA finalized approval of the South Coast plan for the 2008 ozone NAAQS at 84 FR 52005 (October 1, 2019).

[94] Air Quality State Implementation Plans; Approvals and Promulgations: Clean Air Plans; 2008 8-Hour Ozone Nonattainment Area Requirements; San Joaquin Valley, California, Proposed Rule 83 FR 61346 (November 28, 2018). EPA finalized approval of the San Joaquin Valley plan for the 2008 ozone NAAQS at 84 FR 3302 (February 12, 2018).

[95] Technical Support Document: Clean Air Plans; 2008 8-Hour Ozone Nonattainment Area Requirements; West Mojave Desert, California, EPA-R09-OAR-2020-0254, Tables 1 and 2.

[96] The modeling base year emissions were taken from Table 1 and Appendix A of the AVAQMD and MDAQMD Attainment Plans. The CARB Staff Report notes 2012 base year emissions from the Districts' plans were average day emissions, i.e., averaged over the entire year, rather than average summer day emissions, which are included in Appendix A of the CARB Staff Report and were submitted as the 2012 base year emissions.

of the District's Attainment Plans contains model results and performance for the WMD. The WOE analysis in Appendix B to the CARB Staff Report includes additional supporting information to complement the photochemical modeling and to provide context for this attainment demonstration, such as ambient ozone data, a conceptual model of ozone formation, anthropogenic emission trends, ozone trends, and a discussion of the attainment projections. Baseline measures are expected to reduce 2012 base year emissions of NO_X by 30.7 percent and VOC emissions by 13 percent by 2026, and to attain the 2008 ozone NAAQS in the WMD by 2023, three years ahead of the outermost attainment year, 2026.

3. The EPA's Review of the State's Submission

a. Photochemical Modeling

The EPA has reviewed the modeling platform and agrees that the CMAQ (version 5.0.2) modeling platform, and the WRF (version 3.6.1) meteorological fields are appropriate for the ozone attainment demonstration. After review, the EPA is satisfied that the meteorological model, WRF, performed adequately. The diurnal variation of temperature, humidity and surface wind are well represented by WRF. The EPA has also reviewed the time series, scatter plots, and ozone performance, and determined that overall, the CMAQ photochemical modeling performance for ozone is acceptable.

We are proposing to find the air quality modeling adequate to support the attainment demonstrations for the 2008 ozone NAAQS, based on reasonable meteorological and ozone modeling performance, supported by the weight of evidence analyses.

b. Control Strategy

Based on our review of the emissions inventory documentation in the CARB Staff Report, we find that CARB and the Districts have used the most recent planning and activity assumptions, emissions models, and methodologies to estimate the effect of the control strategy on the baseline and milestone year emissions inventories. The 2016 WMD Attainment Plan relies on state and locally adopted baseline control measures, i.e., already-adopted control measures, to

achieve the emissions reductions needed to attain the 2008 ozone NAAQS. The baseline measures are approved into the SIP and, as such, are fully creditable within the attainment demonstration analysis. Accordingly, we propose to find that the emissions reductions that are relied on for attainment are creditable and sufficient to provide for attainment.

c. Attainment Demonstration

Based on our review of the 2016 WMD Attainment Plan and our proposed findings that the photochemical modeling and control strategy are acceptable and demonstrate attainment by July 20, 2027, we propose to approve the attainment demonstration for the 2008 ozone NAAQS in the 2016 WMD Attainment Plan as meeting the requirements of CAA section 182(c)(2)(A) and 40 CFR 51.1108. The Districts' Attainment Plans and the WOE in the CARB Staff Report demonstrate that the ozone design value in the WMD will meet the 0.075 ppm standard by 2026, and therefore will meet the attainment date of July 20, 2027, for the 2008 ozone standard. While the submitted modeling projects that attainment is possible in advance of the 2026 deadline, the EPA is relying on the modeling, additional information provided in the WOE, and current ozone trends, to conclude that the WMD will attain the 2008 ozone NAAQS by 2026, consistent with the outermost attainment date of July 20, 2027. See the TSD for additional information.

E. Rate of Progress Plan and Reasonable Further Progress Demonstration

1. Statutory and Regulatory Requirements

Requirements for RFP are specified in CAA sections 172(c)(2), 182(b)(1), and 182(c)(2)(B). CAA section 172(c)(2) requires that plans for nonattainment areas provide for RFP, which is defined at CAA section 171(1) as such annual incremental reductions in emissions of the relevant air pollutant as are required under part D, "Plan Requirements for Nonattainment Areas," or may reasonably be required by the EPA for the purpose of ensuring attainment of the applicable NAAQS by the applicable date. CAA section 182(b)(1) specifically requires that ozone nonattainment areas that are classified as "Moderate" or above demonstrate a 15 percent reduction in VOC between the years of 1990 and 1996. The EPA has typically referred to section

182(b)(1) as the rate of progress (ROP) requirement. For ozone nonattainment areas classified as Serious or higher, section 182(c)(2)(B) requires reductions averaged over each consecutive 3-year period beginning 6 years after the baseline year until the attainment date of at least 3 percent of baseline emissions per year. CAA section 182(c)(2)(B)(ii) allows an amount less than 3 percent of such baseline emissions each year if the state demonstrates to the EPA that the plan includes all measures that can feasibly be implemented in the area in light of technological achievability.

The 2008 Ozone SRR considers areas classified Moderate or higher to have met the ROP requirements of CAA section 182(b)(1) if the area has a fully approved 15 percent ROP plan for the 1-hour or 1997 8-hour ozone standards, provided the boundaries of the ozone nonattainment areas are the same.[97] For such areas, the RFP requirements of CAA section 172(c)(2) require areas classified as Moderate to provide a 15 percent emission reduction of ozone precursors within 6 years of the baseline year. Areas classified as Serious or higher must meet the RFP requirements of CAA section 182(c)(2)(B) by providing an 18 percent reduction of ozone precursors in the first 6-year period, and an average ozone precursor emission reduction of 3 percent per year for all remaining 3-year periods thereafter.[98] Under CAA 182(c)(2)(C), a state may substitute NO_X emissions reductions for VOC emissions reductions.

Except as specifically provided in CAA section 182(b)(1)(C), emission reductions from all SIP-approved, federally promulgated, or otherwise SIP-creditable measures that occur after the baseline are creditable for purposes of demonstrating that the RFP targets are met. Because the EPA has determined that the passage of time has caused the effect of certain exclusions to be *de minimis*, the RFP demonstration is no longer required to calculate and specifically exclude reductions from measures related to motor vehicle exhaust or evaporative emissions promulgated by January 1, 1990; regulations concerning Reid vapor pressure promulgated by November 15,

[97] 80 FR 12264, 12271 (March 6, 2015).
[98] Id.

1990; measures to correct previous RACT requirements; and measures required to correct previous vehicle inspection and maintenance (I/M) programs.[99]

The 2008 Ozone SRR requires the RFP baseline year to be the most recent calendar year for which a complete triennial inventory is required to be submitted to the EPA (i.e., 2011). As discussed above, the 2008 Ozone SRR provided states with the opportunity to use an alternative baseline year for RFP,[100] but this provision was vacated by the D.C. Circuit in the *South Coast II* decision.

2. Summary of the State's Submission

The 2016 WMD Attainment Plan addresses the 15 percent ROP requirement by noting that the EPA had proposed approval of the 15 percent ROP plan for the 1997 ozone NAAQS for the WMD, and that the 1997 ozone nonattainment area covers the entire nonattainment area for the 2008 ozone standards.[101] The EPA approved the 15 percent ROP demonstration for the 1997 ozone NAAQS, effective July 24, 2017.[102]

With respect to the RFP demonstration requirement, the 2016 WMD Attainment Plan includes an RFP demonstration derived from a 2012 RFP baseline year.[103] In response to the *South Coast II* decision, CARB developed the 2018 SIP Update, which includes a section that replaces the RFP portion of the 2016 WMD Attainment Plan with an updated RFP demonstration based on a 2011 RFP baseline year.[104] To develop the 2011 RFP baseline inventory, CARB relied on actual emissions reported from industrial point sources for year 2011. For emissions from smaller stationary sources and area sources, CARB backcast emissions from 2012 to 2011 using the same growth and control factors as were used for the 2016 WMD Attainment Plan. To develop the emissions inventories for the 2017, 2020 and 2023 RFP milestone years, CARB also relied upon the same growth and control factors as the 2016 WMD Attainment Plan. Therefore,

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[99] 40 CFR 51.1110(a)(7).
[100] 40 CFR 51.1110(b).
[101] Chapter 3 of both Districts' Attainment Plans.
[102] 82 FR 28560 (June 23, 2017).
[103] Chapter 3 of both Districts' Attainment Plans.
[104] Chapter VI of the 2018 SIP Update.

the emissions estimates for the attainment year, 2026, are consistent in both the 2018 SIP Update and the 2016 WMD Attainment Plan.

Documentation for the WMD RFP baseline and milestone emissions inventories is found in the 2018 SIP Update on pages 36–37 and in Appendix A of the 2018 SIP Update on pages A-19 through A-22. The RFP baseline emissions inventories reflect rules identified in Table 5 of the CARB Staff Report.

Table 2 provides a summary of CARB's emissions estimates in tpd for VOC and NO_X for the 2011 RFP baseline year, the 2017, 2020, 2023 RFP milestone years, and the 2026 RFP milestone/attainment year, evaluated relative to the percentage reductions necessary to demonstrate RFP.

Table 2 – WMD RFP Demonstration for the 2008 Ozone NAAQS (Summer planning inventory, tpd or percent)

	VOCs				
	2011	2017	2020	2023	2026
Baseline VOC	48.7	41.5	40.4	40.4	40.5
Transportation conformity safety margin		0	0	0	0.2
Baseline VOC + safety margin	48.7	41.5	40.4	40.4	40.7
Required % change since 2011		18%	27%	36%	45%
Target VOC level		40.0	35.6	31.2	26.8
Apparent shortfall/surplus, tpd		-1.5	-4.8	-9.2	-13.9
Apparent shortfall (-) / surplus (+) in VOC		-3.1%	-9.9%	-18.8%	-28.4%
VOC shortfall previously provided by NO_X substitution, %		0	3.1%	9.9%	18.8%
Actual VOC shortfall (-) / surplus (+), %		-3.1%	-6.8%	-8.9%	-9.6%
	NO_X				
	2011	2017	2020	2023	2026
Baseline NO_X	98.4	84.5	79.8	72.1	68.5
Transportation conformity safety margin	0	0	0	0	0.4
Baseline NO_X + safety margin	98.4	84.5	79.8	72.1	68.9
Change in NO_X since 2011, tpd		13.8	18.6	26.2	29.4
Change in NO_X since 2011, %		14.1%	18.9%	26.7%	29.9%
NO_X reductions used for VOC substitution through last milestone year, %		0	3.1%	9.9%	18.8%
NO_X reductions since 2011 available for VOC substitution in this milestone year, %		14.1%	15.8%	16.7%	11.1%

NO_X reductions since 2011 available for VOC substitution in this milestone year, %		3.1%	6.8%	8.9%	9.6%
NO_X reductions since 2011 surplus after meeting VOC substitution needs in this milestone year, %		10.9%	9.0%	7.9%	1.5%
Total shortfall for RFP		0%	0%	0%	0%
RFP met?		Yes	Yes	Yes	Yes

Source: Table VI-2, 2018 SIP Update.

The revised RFP demonstration calculates future year VOC targets from the 2011 baseline, consistent with CAA 182(c)(2)(B)(i), which requires reductions of "at least 3 percent of baseline emissions each year," and it substitutes NO_X reductions for VOC reductions beginning in milestone year 2017 to meet VOC emission targets. NO_X substitution is permitted under EPA regulations at 40 CFR 51.1110(a)(2)(i)(C) and 40 CFR 51.1110(a)(2)(ii)(B). As stated in the WOE in the CARB Staff Report, "given Western Mojave's downwind location from the only two extreme ozone nonattainment areas in the country, it is expected that ozone formation would be limited by available NO_X emissions," meaning that NO_X reductions would be more effective at reducing ozone concentrations than VOC reductions. For the WMD, CARB concluded that the revised RFP demonstration meets the applicable requirements for each milestone year as well as the attainment year.

3. The EPA's Review of the State's Submission

Consistent with the 2008 Ozone SRR, the EPA's final approval of the 15 percent ROP demonstration for the 1997 ozone NAAQS fulfills the requirements of CAA section 182(b)(1) for WMD for the 2008 ozone NAAQS.[105]

With respect to the RFP demonstration requirement, based on our review of the emissions inventory documentation in the 2018 SIP Update, we find that CARB and the District have used the most recent planning and activity assumptions, emissions models, and methodologies in developing the RFP baseline and milestone year emissions inventories. We have also reviewed

[105] 82 FR 13086 (March 9, 2017).

and verified the calculations in Table VI-3 of the 2018 SIP Update. Furthermore, we find that NO_X emission reductions are as effective as VOC emission reductions in reducing levels of ozone within the Western Mojave Desert.[106] For these reasons, we have determined that the 2018 SIP Update demonstrates RFP in the 2017, 2020, and 2023 milestone years as well as the 2026 milestone/attainment year, consistent with applicable CAA requirements and EPA guidance. Therefore, we propose to approve the RFP demonstration for the WMD for the 2008 ozone NAAQS under sections 172(c)(2) and 182(c)(2)(B) of the CAA and 40 CFR 51.1110(a)(2)(ii).

F. Transportation Control Strategies and Measures to Offset Emissions Increases from Vehicle Miles Traveled

1. Statutory and Regulatory Requirements

Section 182(d)(1)(A) of the Act requires a state to submit a revision for each area classified as Serious or above that identifies and adopts specific enforceable transportation control strategies (TCSs) and transportation control measures (TCMs) to offset any growth in emissions from growth in vehicle miles traveled (VMT) or number of vehicle trips in such area.[107] Herein, we use "VMT" to refer to vehicle miles traveled and refer to the related SIP requirement as the "VMT emissions offset requirement." In addition, we refer to the SIP revision intended to demonstrate compliance with the VMT emissions offset requirement as the "VMT emissions offset demonstration."

In *Association of Irritated Residents v. EPA*, the United States Court of Appeals for the Ninth Circuit ("Ninth Circuit") ruled that additional TCMs are required whenever vehicle emissions are projected to be higher than they would have been had VMT not increased, even

[106] Additional evaluation of this matter is discussed in Section V of the TSD supporting this notice.

[107] CAA section 182(d)(1)(A) includes three separate elements. In short, under section 182(d)(1)(A), states are required to adopt transportation control strategies and measures (1) to offset growth in emissions from growth in VMT, and, (2) in combination with other emission reduction requirements, to demonstrate RFP, and (3) to demonstrate attainment. For more information on the EPA's interpretation of the three elements of section 182(d)(1)(A), see 77 FR 58067, at 58068 (September 19, 2012) (proposed withdrawal of approval of South Coast VMT emissions offset demonstrations).

when aggregate vehicle emissions are actually decreasing.[108] In response to the Ninth Circuit's decision, the EPA issued a memorandum titled "Guidance on Implementing Clean Air Act Section 182(d)(1)(A): Transportation Control Measures and Transportation Control Strategies to Offset Growth in Emissions Due to Growth in Vehicle Miles Travelled" ("August 2012 Guidance").[109]

The August 2012 Guidance discusses the meaning of TCSs and TCMs and recommends that both TCSs and TCMs be included in the calculations made for the purpose of determining the degree to which any hypothetical growth in emissions due to growth in VMT should be offset. Generally, TCSs encompass many types of controls (including, for example, motor vehicle emissions limitations, I/M programs, alternative fuel programs, other technology-based measures, and TCMs) that would fit within the regulatory definition of "control strategy."[110] Such measures include, but are not limited to, those listed in CAA section 108(f). TCM is defined at 40 CFR 51.100(r) as meaning "any measure that is directed toward reducing emissions of air pollutants from transportation sources," including, but not limited to, those listed in section 108(f) of the CAA. TCMs generally refer to programs intended to reduce VMT, the number of vehicle trips, or traffic congestion, including, e.g., programs for improved public transit, designation of certain lanes for passenger buses and high-occupancy vehicles, and trip reduction ordinances.

The August 2012 Guidance explains how states may demonstrate that the VMT emissions offset requirement is satisfied in conformance with the Ninth Circuit's ruling. The August 2012 Guidance recommends that states estimate emissions for the nonattainment area's base year and attainment year. One emissions inventory is developed for the base year, and three

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[108] *Association of Irritated Residents v. EPA*, 632 F.3d. 584, at 596-597 (9th Cir. 2011), reprinted as amended on January 27, 2012, 686 F.3d 668, further amended February 13, 2012 ("*Association of Irritated Residents*").
[109] Memorandum from Karl Simon, Director, Transportation and Climate Division, Office of Transportation and Air Quality, to Carl Edlund, Director, Multimedia Planning and Permitting Division, EPA Region VI, and Deborah Jordan, Director, Air Division, EPA Region IX, August 30, 2012.
[110] See, e.g., 40 CFR 51.100(n). TCMs are defined at 40 CFR 51.100(r) as meaning any measure that is directed toward reducing emissions of air pollutants from transportation sources.

different emissions inventory scenarios are developed for the attainment year. For the attainment year, the state would present three emissions estimates, two of which would represent hypothetical emissions scenarios that would provide the basis to identify the growth in emissions due solely to the growth in VMT, and one that would represent projected actual motor vehicle emissions after fully accounting for projected VMT growth and offsetting emissions reductions obtained by all creditable TCSs and TCMs. See the August 2012 Guidance for specific details on how states might conduct the calculations.

The base year on-road VOC emissions should be calculated using VMT in that year and should reflect all enforceable TCSs and TCMs in place in the base year. This would include vehicle emissions standards, state and local control programs such as I/M programs or fuel rules, and any additional implemented TCSs and TCMs that were already required by or credited in the SIP as of that base year.

The first of the emissions calculations for the attainment year would be based on the projected VMT and trips for that year and assume that no new TCSs or TCMs beyond those already credited in the base year inventory have been put in place since the base year. This calculation demonstrates how emissions would hypothetically change if no new TCSs or TCMs were implemented, and VMT and trips were allowed to grow at the projected rate from the base year. This estimate would show the potential for an increase in emissions due solely to growth in VMT and trips. This represents a “no action” scenario. Emissions in the attainment year in this scenario may be lower than those in the base year due to fleet turnover; however, if VMT and/or numbers of vehicle trips are projected to increase in the attainment year, emissions would still likely be higher than if VMT had held constant.

The second of the attainment year’s emissions calculations would assume that no new TCSs or TCMs beyond those already credited have been put in place since the base year, but it would also assume that there was no growth in VMT and trips between the base year and attainment year. This estimate reflects the hypothetical emissions level that would have occurred

if no further TCMs or TCSs had been put in place and if VMT and trip levels had held constant since the base year. Like the "no action" attainment year estimate described above, emissions in the attainment year may be lower than those in the base year due to fleet turnover, but in this case emissions would not be influenced by any growth in VMT or trips. This emissions estimate would reflect a ceiling on the attainment emissions that should be allowed to occur under the statute as interpreted by the Ninth Circuit because it shows what would happen under a scenario in which no offsetting TCSs or TCMs have yet been put in place and VMT and trips are held constant during the period from the area's base year to its attainment year. This represents a "VMT offset ceiling" scenario. These two hypothetical status quo estimates are necessary steps in identifying the target level of emissions from which states determine whether further TCMs or TCSs, beyond those that have been adopted and implemented in reality, would need to be adopted and implemented in order to fully offset any increase in emissions due solely to VMT and trips identified in the "no action" scenario.

Finally, the state would present the emissions that are actually expected to occur in the area's attainment year after taking into account reductions from all enforceable TCSs and TCMs put in place after the baseline year. This estimate would be based on the VMT and trip levels expected to occur in the attainment year (i.e., the VMT and trip levels from the first estimate) and all of the TCSs and TCMs expected to be in place and for which the SIP will take credit in the area's attainment year, including any TCMs and TCSs put in place since the base year. This represents the "projected actual" attainment year scenario. If this emissions estimate is less than or equal to the emissions ceiling that was established in the second of the attainment year calculations, the TCSs or TCMs for the attainment year would be sufficient to fully offset the identified hypothetical growth in emissions.

Alternatively, if the estimated projected actual attainment year emissions are still greater than the ceiling that was established in the second of the attainment year emissions calculations, even after accounting for post-baseline year TCSs and TCMs, the state would need to adopt and

implement additional TCSs or TCMs to further offset the growth in emissions. The additional TCSs or TCMs would need to bring the actual emissions down to at least the "had VMT and trips held constant" ceiling estimated in the second of the attainment year calculations, in order to meet the VMT offset requirement of section 182(d)(1)(A) as interpreted by the Ninth Circuit.

2. Summary of the State's Submission

The VMT emissions offset demonstration for the WMD for the 2008 ozone NAAQS is contained in Chapter 3 of the Districts' Attainment Plans.[111] For the VMT emissions offset demonstration, CARB used EMFAC2014, the latest EPA-approved motor vehicle emissions model for California available at the time the 2016 WMD Attainment Plan was developed.[112] The EMFAC2014 model estimates the on-road emissions from two combustion processes (i.e., running exhaust and start exhaust) and four evaporative processes (i.e., hot soak, running losses, diurnal losses, and resting losses). The EMFAC2014 model combines trip-based VMT data from the regional transportation planning agency (i.e., SCAG), starts data based on household travel surveys, and vehicle population data from the California Department of Motor Vehicles. These sets of data are combined with corresponding emission rates to calculate emissions.

Emissions from running exhaust, start exhaust, hot soak, and running losses are a function of how much a vehicle is driven. Emissions from these processes are thus directly related to VMT and vehicle trips, and the analysis included these emissions in the calculations that provide the basis for the WMD VMT emissions offset demonstration. The analysis did not include emissions from resting loss and diurnal loss processes in the analysis because such emissions are related to vehicle population, not to VMT or vehicle trips, and thus are not part of "any growth in emissions from growth in vehicle miles traveled or numbers of vehicle trips in such area" under CAA section 182(d)(1)(A).

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[111] AVAQMD Attainment Plan, 23, and MDAQMD Attainment Plan, 25.

[112] On August 15, 2019, the EPA approved and announced the availability of EMFAC2017, the latest update to the EMFAC model for use by State and local governments to meet CAA requirements. See 84 FR 41717.

The WMD VMT emissions offset demonstration uses a 2012 base year. The base year for VMT emissions offset demonstration purposes should generally be the same base year used for nonattainment planning purposes. In section III.A of this document, the EPA is proposing to approve the 2012 base year inventory for the WMD for the purposes of the 2008 ozone NAAQS, and thus, the selection of 2012 as the base year for the WMD VMT emissions offset demonstration for the 2008 ozone NAAQS is appropriate.

The WMD VMT emissions offset demonstration also includes the previously described three different attainment year scenarios (i.e., no action, VMT offset ceiling, and projected actual). The 2016 WMD Attainment Plan provides a demonstration of attainment of the 2008 ozone NAAQS in the WMD by the applicable attainment date, based on the controlled 2026 emissions inventory. As described in section III.D of this document, the EPA is proposing to approve the attainment demonstration for the 2008 ozone NAAQS for the WMD, and thus, we find the selection of year 2026 as the attainment year for the VMT emissions offset demonstration for the 2008 ozone NAAQS to be acceptable.

Table 3 summarizes the relevant distinguishing parameters for each of the emissions scenarios and shows CARB's corresponding VOC emissions estimates for the demonstration for the 2008 ozone NAAQS.

Table 3 – VMT Emissions Offset Inventory Scenarios and Results for 2008 Ozone NAAQS

Scenario	VMT		Starts		Controls	VOC Emissions
	Year	1,000 miles/day	Year	1,000/day	Year	Tpd
Base Year	2012	26,536	2012	4,470	2012	12.4
No Action	2026	34,724	2026	5,238	2012	6.5
VMT Offset Ceiling	2012	26,536	2012	4,470	2012	5.3
Actual Projected	2026	34,724	2026	5,238	2026	4.6

Source: AVAQMD Attainment Plan, 23–27, and MDAQMD Attainment Plan, 26–29.

3. The EPA's Review of the State's Submission

Based on our review of the WMD VMT emissions offset demonstration in the 2016 WMD Attainment Plan, we find CARB's analysis to be consistent with our August 2012 Guidance and consistent with the emissions and vehicle activity estimates provided by CARB in support of the 2016 AQMP. We agree that the TCSs and TCMs in place for the area are sufficient to offset the growth in emissions from growth in VMT and vehicle trips in the WMD for the purposes of the 2008 8-hour ozone standards. As such, we find that the WMD VMT emissions offset demonstration complies with the VMT emissions offset requirement in CAA section 182(d)(1)(A). Therefore, we propose approval of the WMD VMT emissions offset demonstration portion of the 2016 WMD Attainment Plan.

G. Contingency Measures

1. Statutory and Regulatory Requirements

Under the CAA, SIPs for 8-hour ozone nonattainment areas classified under subpart 2 as Moderate or above must include contingency measures consistent with sections 172(c)(9) and 182(c)(9). Contingency measures are additional controls or measures to be implemented in the event an area fails to make RFP or to attain the NAAQS by the attainment date. The SIP should contain trigger mechanisms for the contingency measures, specify a schedule for implementation, and indicate that the measure will be implemented without significant further action by the state or the EPA.[113]

Neither the CAA nor the EPA's implementing regulations establish a specific level of emissions reductions that implementation of contingency measures must achieve, but the EPA's 2008 Ozone SRR reiterates the EPA's policy that contingency measures should generally provide for emissions reductions approximately equivalent to one year's worth progress, amounting to reductions of 3 percent of the baseline emissions inventory for the nonattainment area.[114]

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[113] 70 FR 71612 (November 29, 2005). See also 2008 Ozone SRR, 80 FR 12264, 12285 (March 6, 2015).
[114] 80 FR 12264, 12285 (March 6, 2015).

It has been the EPA's longstanding interpretation of CAA section 172(c)(9) that states may meet the contingency measure requirement by relying on federal measures (e.g., federal mobile source measures based on the incremental turnover of the motor vehicle fleet each year) and local measures already scheduled for implementation that provide emissions reductions in excess of those needed to provide for RFP or expeditious attainment. The key is that the Act requires contingency measures to provide for additional emissions reductions that are not relied on for RFP or attainment and that are not included in the RFP or attainment demonstrations as meeting part or all of the contingency measure requirements. The purpose of contingency measures is to provide continued emissions reductions while a plan is being revised to meet the missed milestone or attainment date.

The EPA has approved numerous SIPs under this interpretation—i.e., SIPs that use as contingency measures one or more federal or local measures that are in place and provide reductions in excess of the reductions required by the attainment demonstration or RFP plan,[115] and there is case law supporting the EPA's interpretation in this regard.[116] However, in *Bahr v. EPA*, the Ninth Circuit rejected the EPA's interpretation of CAA section 172(c)(9) as allowing for early implementation of contingency measures.[117] The Ninth Circuit concluded that contingency measures must take effect at the time the area fails to make RFP or attain by the applicable attainment date, not before.[118] The D.C. Circuit recently reached a similar conclusion regarding the contingency measure provisions in CAA sections 172(c)(9) and 182(c)(9), in *Sierra Club v. EPA*.[119] Following these decisions, states cannot rely on early-implemented

[115] See, e.g., 62 FR 15844 (April 3, 1997) (direct final rule approving an Indiana ozone SIP revision); 62 FR 66279 (December 18, 1997) (final rule approving an Illinois ozone SIP revision); 66 FR 30811 (June 8, 2001) (direct final rule approving a Rhode Island ozone SIP revision); 66 FR 586 (January 3, 2001) (final rule approving District of Columbia, Maryland, and Virginia ozone SIP revisions); and 66 FR 634 (January 3, 2001) (final rule approving a Connecticut ozone SIP revision).
[116] See, e.g., *LEAN v. EPA*, 382 F.3d 575 (5th Cir. 2004) (upholding contingency measures that were previously required and implemented where they were in excess of the attainment demonstration and RFP SIP).
[117] *Bahr v. EPA*, 836 F.3d at 1235–1237 (9th Cir. 2016) ("*Bahr*").
[118] Id. at 1235-1237.
[119] *Sierra Club v. EPA*, 985 F.3d 1055 (D.C. Cir. 2021) ("*Sierra Club*").

measures to comply with the contingency measure requirements under CAA section 172(c)(9) and 182(c)(9).

2. Summary of the State's Submission

The Districts and CARB had largely prepared the 2016 WMD Attainment Plan prior to the *Bahr* and *Sierra Club* decisions; therefore, the plan relies solely upon surplus emissions reductions from already implemented control measures in the RFP milestone years to demonstrate compliance with the RFP milestone contingency measures requirements of CAA sections 172(c)(9) and 182(c)(9).[120] The plan also demonstrates compliance with the attainment contingency measures requirements using surplus emissions reductions (in the year after the attainment year), and separately identifies use of the State's enhanced I/M program as an attainment contingency measure.[121]

In the 2018 SIP Update, CARB revised the RFP demonstration for the 2008 ozone NAAQS for the WMD and recalculated the extent of surplus emission reductions in the milestone years. Consistent with the *Bahr* decision (and the later *Sierra Club* decision), the 2018 SIP Update does not rely on the surplus or incremental emissions reductions to comply with the contingency measures requirements of sections 172(c)(9) and 182(c)(9) but instead documents the extent to which future baseline emissions would provide surplus emissions reductions beyond those required to meet applicable contingency measure requirements, to provide context for determining the magnitude of the contingency measures needed for the 2008 ozone NAAQS.

The 2018 SIP Update identifies one year's worth of RFP as approximately 1.5 tpd of VOC. The 2018 SIP Update estimates surplus NO_X reductions for RFP as ranging from approximately 10.7 tpd in 2017 to 7.8 tpd in 2023, and estimates that implementation of the state control measures will result in an additional 0.2 tpd VOC and 1.6 tpd of NO_X emissions reductions occuring in the year after the attainment year.[122]

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[120] AQAQMD Attainment Plan, 20; MDAQMD Attainment Plan, 22.
[121] Id. AQAQMD Attainment Plan, 18; MDAQMD Attainment Plan, 20.
[122] 2018 SIP Update, Chapter VI, Tables VI-4, VI-5, and VI-6.

In subsequent communications, CARB has clarified that the proposed contingency measure would involve implementation of enhanced I/M specifically in those areas of the WMD subject to MDAQMD jurisdiction that are currently subject only to basic I/M requirements.[123] As described by the MDAQMD, within 30 days of a finding by the EPA that the WMD has either failed to meet an RFP milestone for the 2008 ozone NAAQS or failed to attain the 2008 ozone NAAQS by the attainment deadline, the MDAQMD Executive Officer will transmit a formal letter to the California Bureau of Automotive Repair (BAR) requesting implementation of the enhanced I/M program throughout the entirety of the portion of the WMD that is subject to the District's jurisdiction. Upon receiving the District's letter, BAR would initiate the program and notify the relevant stakeholders of the updated requirements in the area. This procedure is described in section 44003(c) of the California Health and Safety Code, and no additional regulations would need to be adopted.[124] CARB estimates that implementation of the enhanced I/M program for this region will result in additional emissions reductions of 0.03 tpd of VOC and 0.04 tpd of NO_X.[125]

The MDAQMD has committed to submit a Board resolution further detailing the circumstances, timing, and procedure for implementing this contingency measure, within eleven months of the EPA's final conditional approval of the contingency measures element of the 2016

[123] Email dated November 20, 2020, from Ariel Fideldy (CARB) to Tom Kelly (EPA), Subject: West Mojave Desert Contingency Measures.
[124] Letter dated March 29, 2021, from Brad Poiriez, Executive Officer, MDAQMD, to Richard Corey, Executive Officer, CARB. The EPA approved California Health and Safety Code section 44003(c) into the California SIP at 75 FR 38023 (July 1, 2010).
[125] Letter dated April 9, 2021, from Michael Benjamin, Chief, Air Quality Planning and Science Division, CARB, to Deborah Jordan, Acting Regional Administrator, EPA Region IX. CARB indicates that these figures represent conservative estimates of the potential emissions reductions that would result from implementation of the contingency measure, because they are derived from residential populations that may underrepresent the actual vehicle populations located within the zip codes currently subject to basic I/M. See Attachment A to letter dated April 9, 2021, from Michael Benjamin, Chief, Air Quality Planning and Science Division, CARB, to Deborah Jordan, Acting Regional Administrator, EPA Region IX.

WMD Attainment Plan.[126] CARB, in turn, has committed to submit the Board resolution to the EPA for SIP approval within 12 months of the EPA's final conditional approval.[127]

3. The EPA's Review of the State's Submission

Sections 172(c)(9) and 182(c)(9) of the CAA require contingency measures to address potential failure to achieve RFP milestones or failure to attain the NAAQS by the applicable attainment date. To evaluate the contingency measure element of the 2016 WMD Attainment Plan, we find it useful to distinguish between contingency measures to address potential failure to achieve RFP milestones ("RFP contingency measures") and contingency measures to address potential failure to attain the NAAQS ("attainment contingency measures").

With respect to the RFP contingency measure requirement, we have reviewed the surplus emissions estimates in each of the RFP milestone years, as shown in the 2018 SIP Update, and find that the calculations are correct. Therefore, we agree that the emission estimates from the 2018 SIP Update provide surplus reductions well beyond those necessary to demonstrate RFP in the RFP milestone years. While such surplus emissions reductions in the RFP milestone years do not represent contingency measures themselves, we believe they are relevant in evaluating the adequacy of RFP contingency measures that are submitted (or will be submitted) to meet the requirements of sections 172(c)(9) and 182(c)(9).

In this case, the MDAQMD and CARB have committed to develop, adopt, and submit a Board resolution further detailing the circumstances, timing, and procedure for implementing enhanced I/M requirements in the portion of the WMD that is currently subject to basic I/M, should the WMD fail to meet an RFP milestone. The specific commitment of the MDAQMD upon an RFP milestone failure (i.e., changing from basic to enhanced I/M) complies with the requirements in CAA sections 172(c)(9) and 182(c)(9) because it would be undertaken if the area

[126] Letter dated March 29, 2021, from Brad Poiriez, Executive Officer, MDAQMD, to Richard Corey, Executive Officer, CARB.
[127] Letter dated April 9, 2021, from Michael Benjamin, Chief, Air Quality Planning and Science Division, CARB, to Deborah Jordan, Acting Regional Administrator, EPA Region IX.

fails to meet an RFP milestone and would take effect without further significant action by the District, the State, or the EPA.[128]

To assess the adequacy of the RFP contingency measure (once adopted and submitted), we next consider the magnitude of emissions reductions the measure would provide if triggered. Neither the CAA nor the EPA's implementing regulations for the ozone NAAQS establish a specific amount of emissions reductions that implementation of contingency measures must achieve, but we generally expect that contingency measures should provide for emissions reductions equivalent to approximately one year's worth of RFP, which, for ozone, amounts to reductions of 3 percent of the baseline emissions inventory for the nonattainment area. For the 2008 ozone NAAQS in the WMD, one year's worth of RFP is approximately 1.5 tpd of VOC, or 3.0 tpd of NO_X reductions, or a combination of the two calculated on a percentage basis.[129] In its commitment letter, CARB conservatively estimates the potential additional emissions reductions from the contingency measure commitments at 0.03 tpd of VOC and 0.04 tpd of NO_X. While these amounts collectively reflect less than one year's worth of RFP, the 2018 SIP Update provides the larger SIP planning context with which to judge the adequacy of the to-be-submitted District contingency measures, by calculating the surplus emissions reductions estimated to be achieved in the RFP milestone years. The estimates of surplus NO_X reductions range from 10.7 to 7.8 tpd, depending on the RFP year, which represents more than twice one year's worth of progress (3.0 tpd of NO_X).[130] The surplus reflects already implemented regulations and is primarily the result of vehicle turnover, which refers to the ongoing replacement by individuals, companies, and government agencies of older, more polluting vehicles and engines with newer

[128] Section 182(c)(3) of the CAA requires states with ozone nonattainment areas classified under subpart 2 as Serious or above to implement an enhanced motor vehicle I/M program in each urbanized area within the nonattainment area. Section 182(c)(3) further explains that urbanized areas are "defined by the Bureau of the Census, with a 1980 population of 200,000 or more." Because parts of the MDAQMD within the WMD were not considered urbanized areas in 1980, only part of the WMD is subject to enhanced I/M. All of the area under the jurisdiction of the AVAQMD is subject to enhanced I/M.

[129] The 2011 baseline for VOC and NO_X is 48.7 tpd and 98.4 tpd, respectively, as shown in table VI-1 of the 2018 SIP Update. Three percent of these baselines is 1.5 tpd of VOC and 3.0 tpd of NO_X.

[130] 2018 SIP Update, Table VI-5.

vehicles and engines. In light of these surplus NO_X emissions reductions in the RFP milestone years, the emissions reductions from the committed contingency measure are adequate to meet the contingency measure requirements of the CAA with respect to RFP milestones.

For attainment contingency measure purposes, we evaluate the emissions reductions from the District's contingency measures in the context of the expected reduction in emissions within the WMD in the year following the attainment year, relative to those occurring in the attainment year. In 2027, VOC and NO_X emissions for the WMD are expected to be approximately 0.2 and 1.6 tpd, respectively, lower than the emissions in 2026. Considered together, the continuing reductions from already-implemented measures and the emissions reductions from the MDAQMD's contingency measure provide for emissions reductions near to, but below, one year's worth of progress.[131] Therefore, we find that the contingency measures described in the MDAQMD's and CARB's commitment letters would provide sufficient emissions reductions to satisfy the attainment contingency measures requirement, even though reductions from the measures would be lower than one year's worth of RFP.

For these reasons, we propose to conditionally approve the contingency measures element of the 2016 WMD attainment plan, as supplemented by the commitment from the MDAQMD and CARB to adopt and submit an MDAQMD Board resolution detailing the circumstances, timing, and procedure for implementing the contingency measure requirements of CAA sections 172(c)(9) and 182(c)(9). Our proposed approval is conditional because it relies upon specific commitments from MDAQMD and CARB. Conditional approvals are authorized under CAA section 110(k)(4).

H. Motor Vehicle Emissions Budgets for Transportation Conformity

1. Statutory and Regulatory Requirements

[131] Combined reductions (0.23 tpd VOC and 1.64 tpd NO_X) represent 70 percent of one year's RFP (15.3 percent of 1.5 tpd VOC; 54.7 percent of 3.0 tpd NO_X). Further emissions reductions are projected to occur in upwind areas in the year following the attainment year (see, e.g., 2016 AQMP, Chapter 3), and we anticipate that these reductions will drive additional reductions in ozone concentrations in the WMD in this period, consistent with the strong influence of upwind emissions on nonattainment in the WMD.

Section 176(c) of the CAA requires federal actions in nonattainment and maintenance areas to conform to the SIP's goals of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of the standards. Conformity to the SIP's goals means that such actions will not: (1) cause or contribute to violations of a NAAQS, (2) worsen the severity of an existing violation, or (3) delay timely attainment of any NAAQS or any interim milestone.

Actions involving Federal Highway Administration (FHWA) or Federal Transit Administration (FTA) funding or approval are subject to the EPA's transportation conformity rule, codified at 40 CFR part 93, subpart A. Under this rule, metropolitan planning organizations (MPO) in nonattainment and maintenance areas coordinate with state and local air quality and transportation agencies, the EPA, the FHWA, and the FTA to demonstrate that an area's regional transportation plans and transportation improvement programs conform to the applicable SIP. This demonstration is typically done by showing that estimated emissions from existing and planned highway and transit systems are less than or equal to the motor vehicle emissions budgets (MVEBs or "budgets") contained in all control strategy SIPs. Budgets are generally established for specific years and specific pollutants or precursors. Ozone plans should identify budgets for on-road emissions of ozone precursors (NO_X and VOC) in the area for each RFP milestone year and, if the plan demonstrates attainment, the attainment year.[132]

For motor vehicle emissions budgets to be approvable, they must meet, at a minimum, the EPA's adequacy criteria (40 CFR 93.118(e)(4) and (5)) and be approvable under all pertinent SIP requirements. To meet these requirements, the MVEBs must be consistent with the approvable attainment and RFP demonstrations and reflect all of the motor vehicle control measures contained in the attainment and RFP demonstrations.[133] Budgets may include a safety

[132] 40 CFR 93.102(b)(2)(i).
[133] 40 CFR 93.118(e)(4)(iii), (iv) and (v). For more information on the transportation conformity requirements and applicable policies on MVEBs, please visit our transportation conformity web site at: *http://www.epa.gov/otaq/stateresources/transconf/index.htm.*

margin representing the difference between projected emissions and the total amount of emissions estimated to satisfy any requirements for attainment or RFP.

The EPA's process for determining adequacy of a MVEB consists of three basic steps: (1) providing public notification of a SIP submission; (2) providing the public the opportunity to comment on the MVEB during a public comment period; and, (3) making a finding of adequacy or inadequacy.[134]

2. Summary of the State's Submission

The 2016 WMD Attainment Plan includes budgets for the 2018, 2021, and 2024 RFP milestone years, and a 2026 attainment year. The budgets for 2018, 2021, and 2024 were derived from the 2012 RFP baseline year and the associated RFP milestone years. These budgets are affected by the *South Coast II* decision vacating the alternative baseline year provision, and therefore, the EPA has not previously acted on the budgets.

The 2018 SIP Update revised the RFP demonstration consistent with the *South Coast II* decision (i.e., by using a 2011 RFP baseline year) and identifies new budgets for the WMD for VOC and NO_X for each updated RFP milestone year through 2026. The budgets in the 2018 SIP Update replace the budgets contained in the 2016 WMD Attainment Plan. Like the budgets in the 2016 WMD Attainment Plan, the budgets in the 2018 SIP Update were calculated using EMFAC2014, the version of CARB's EMFAC model approved by the EPA for estimating emissions from on-road vehicles operating in California at the time the 2016 WMD Attainment Plan and 2018 SIP Update were developed. The budgets in the 2018 SIP Update reflect updated VMT estimates from SCAG's 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy, Amendment 2, adopted in July 2017, and align with the emissions inventory, RFP and attainment demonstrations in the 2016 WMD Attainment Plan. Additionally,

[134] 40 CFR 93.118.

the budgets in the 2018 SIP Update are more precise because they are rounded up to the nearest tenth of a tpd, instead of the nearest whole number.[135]

The conformity budgets for NO_X and VOC in the 2018 SIP Update for the WMD are provided in Table 4 below.

Table 4 – West Mojave Desert Motor Vehicle Emissions Budgets in the 2018 SIP Update (tpd, average summer weekday)[a]

	2020		2023		2026	
	VOC	NO_X	VOC	NO_X	VOC	NO_X
On-Road Inventory	7.87	17.57	6.73	10.98	5.98	9.79
Safety Margin	--	--	--	--	0.2	0.4
Total	7.87	17.57	6.73	10.98	6.18	10.19
MVEBs[b]	7.9	17.6	6.8	11.0	6.2	10.2

[a] Source: Table VI-3 from the 2018 SIP Update.
[b] Rounded up to the next tenth of a ton.

The submittal letters for both the 2016 WMD Attainment Plan and the 2018 SIP Update include a request from CARB that the EPA limit the duration of our approval of the budgets to last only until the effective date of future EPA adequacy findings for replacement budgets.[136]

3. The EPA's Review of the State's Submission

As part of our review of the approvability of the budgets in the 2018 SIP Update, we have evaluated the budgets using our adequacy criteria in 40 CFR 93.118(e)(4) and (5). We will complete the adequacy review concurrently with our final action on the 2016 WMD Attainment Plan. The EPA is not required under its transportation conformity rule to find budgets adequate prior to proposing approval of them.[137] Today, the EPA is announcing that the adequacy process for these budgets begins and the public has 30 days to comment on their adequacy, per the transportation conformity regulation at 40 CFR 93.118(f)(2)(i) and (ii).

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[135] For instance, the 2016 WMD Attainment Plan estimates that 2026 on-road vehicle emissions (summer planning inventory) would be 7 tpd for VOC and 11 tpd for NO_X. See Appendix A, A-23 through A-26. The corresponding budgets from the 2018 SIP Update are 6.2 tpd for VOC and 10.2 tpd for NO_X. See Table VI-3 and surrounding discussion in Section V of the TSD for this action for additional detail.
[136] Letter dated April 9, 2021, from Michael Benjamin, Chief, Air Quality Planning and Science Division, CARB, to Deborah Jordan, Acting Regional Administrator, EPA Region IX, and letter dated December 5, 2018, from Richard Corey, Executive Officer, CARB, to Mike Stoker, Regional Administrator, EPA Region IX.
[137] Under the transportation conformity regulations, the EPA may review the adequacy of submitted motor vehicle emission budgets simultaneously with the EPA's approval or disapproval of the submitted implementation plan. 40 CFR 93.118(f)(2).

As documented in Table 5 of section V of the EPA's TSD for this proposal, we preliminarily conclude that the budgets in the 2018 SIP Update for the West Mojave Desert meet each adequacy criterion. While adequacy and approval are two separate actions, reviewing the budgets in terms of the adequacy criteria informs the EPA's decision to propose to approve the budgets. We have completed our detailed review of the 2016 WMD Attainment Plan and the 2018 SIP Update, and we are proposing herein to approve the attainment and RFP demonstrations. We have also reviewed the budgets in the 2018 SIP Update and found that they are consistent with the attainment and RFP demonstrations for which we are proposing approval, are based on control measures that have already been adopted and implemented, and meet all other applicable statutory and regulatory requirements, including the adequacy criteria in 40 CFR 93.1118(e)(4) and (5). Therefore, we are proposing to approve the 2023 and 2026 budgets in the 2018 SIP Update. At the point when we finalize our adequacy process or approve the budgets for the 2008 ozone NAAQS in the 2018 SIP Update as proposed (whichever occurs first; note that they could also occur concurrently per 40 CFR 93.118(f)(2)(iii)), then these budgets will replace the budgets that we previously found adequate for use in transportation conformity determinations.[138]

Under our transportation conformity rule, as a general matter, once budgets are approved, they cannot be superseded by revised budgets submitted for the same CAA purpose and the same year(s) addressed by the previously approved SIP submittal until the EPA approves the revised budgets as a SIP revision. In other words, as a general matter, such approved budgets cannot be superseded by revised budgets found adequate, but rather only through approval of the revised

[138] We found adequate the budgets from the Antelope Valley-Western Mojave Desert 8-hour Ozone Early Progress Plan (February 2008) for the 1997 ozone NAAQS at 73 FR 24594 (May 5, 2008). The budgets in Table VI-3 of the 2018 SIP Update for the 2008 ozone NAAQS are lower than the corresponding budgets approved for the 1997 ozone NAAQS. The current budgets of 22 tpd for VOC and 77 tpd for NO_X for all years, would be replaced by budgets of 6.8 tpd for VOC and 11.0 tpd for NO_X in 2023 and 6.2 tpd for VOC and 10.2 tpd for NO_X in 2026.

budgets, unless the EPA specifies otherwise in its approval of a SIP by limiting the duration of the approval to last only until subsequently submitted budgets are found adequate.[139]

In this instance, CARB's submittal letters transmitting the 2016 WMD Attainment Plan and 2018 SIP Update requested that we limit the duration of our approval to the effective date of an EPA adequacy finding for subsequently submitted budgets, and on April 9, 2021, CARB provided further explanation for its request. Generally, we will consider a state's request to limit an approval of a budget only if the request includes the following elements:[140]

- An acknowledgement and explanation as to why the budgets under consideration have become outdated or deficient;
- A commitment to update the budgets as part of a comprehensive SIP update; and
- A request that the EPA limit the duration of its approval to the time when new budgets have been found to be adequate for transportation conformity purposes.

CARB's request includes an explanation for why the budgets have become, or will become, outdated or deficient. In short, CARB requested that we limit the duration of the approval of the budgets in light of the EPA's recent approval of EMFAC2017, an updated version of the EMFAC2014 model used for the budgets in the 2018 SIP Update. EMFAC2017 updates vehicle mix and emissions data of the previously approved version of the model, EMFAC2014.

In light of the approval of EMFAC2017, CARB requests that the budgets from the 2016 WMD Attainment Plan, for which we are proposing approval in this action, will be revised using EMFAC2017 in 2022. CARB's request also states, "without the ability to replace the applicable transportation conformity emissions budgets with submitted budgets found adequate using the budget adequacy process, the benefits of using the updated data may not be realized for a year or more after the SIPs are submitted, due to the SIP approval process."

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[139] 40 CFR 93.118(e)(1).
[140] 67 FR 69139 (November 15, 2002) (final action limiting our prior approval of budgets in certain California SIPs).

We note that CARB has not committed to update the budgets as part of a comprehensive SIP update, but as a practical matter, CARB must submit a SIP revision that includes updated demonstrations as well as the updated budgets to meet the adequacy criteria in 40 CFR 93.118(e)(4) for the 2015 ozone NAAQS in 2022,[141] and thus, we do not need a specific commitment for such a plan at this time. For the reasons provided above, and in light of CARB's explanation for why the budgets will become outdated and should be replaced upon an adequacy finding for updated budgets, we propose to limit the duration of our approval of the budgets in the 2018 SIP Update until we find revised budgets based on EMFAC2017 to be adequate.

I. Other Clean Air Act Requirements Applicable to Severe Ozone Nonattainment Areas

In addition to the requirements discussed above, title 1, subpart D of the CAA includes other provisions applicable to Severe ozone nonattainment areas, such as the WMD. We describe these provisions and their current status below for informational purposes only.

1. Enhanced Vehicle Inspection and Maintenance Programs

Section 182(c)(3) of the CAA requires states with ozone nonattainment areas classified under subpart 2 as Serious or above to implement an enhanced motor vehicle I/M program in each urbanized area within the nonattainment area. As discussed in Section III.G.3 of this document, Section 182(c)(3) further explains that urbanized areas are "defined by the Bureau of the Census, with a 1980 population of 200,000 or more." Because parts of the MDAQMD within the WMD were not considered urbanized areas in 1980, only part of the WMD is subject to enhanced I/M.[142]

Consistent with the 2008 Ozone SRR, no new I/M programs are currently required for nonattainment areas for the 2008 ozone NAAQS.[143] The EPA previously approved the California

[141] Under 40 CFR 93.118(e)(4), the EPA will not find a budget in a submitted SIP to be adequate unless, among other criteria, the budgets, when considered together with all other emissions sources, are consistent with applicable requirements for RFP and attainment. 40 CFR 93.118(e)(4)(iv).

[142] As described in section III.G.2 of this document, the State has committed to adopt a contingency measure to implement enhanced I/M throughout the portion of the WMD that is currently subject to basic I/M, in the event that the area fails to meet an RFP milestone or to attain the 2008 NAAQS by the attainment date.

[143] 2008 Ozone SRR, 80 FR 12264, at 12283 (March 6, 2015).

I/M program in the West Mojave Desert as meeting the requirements of the CAA and applicable EPA regulations for enhanced I/M programs.[144]

2. New Source Review Rules

Section 182(a)(2)(C) of the CAA requires states to develop SIP revisions containing permit programs for each of its ozone nonattainment areas. The SIP revisions are to include requirements for permits in accordance with CAA sections 172(c)(5) and 173 for the construction and operation of each new or modified major stationary source for VOC and NO_X anywhere in the nonattainment area.[145] The 2008 Ozone SRR includes provisions and guidance for nonattainment new source review (NSR) programs.[146] We will address the NSR requirements for the 2008 ozone NAAQS in the WMD in a separate action.

3. Clean Fuels Fleet Program

Sections 182(c)(4)(A) and 246 of the CAA require California to submit to the EPA for approval into the SIP measures to implement a Clean Fuels Fleet Program. Section 182(c)(4)(B) of the CAA allows states to opt out of the federal clean-fuel vehicle fleet program by submitting a SIP revision consisting of a program or programs that will result in at least equivalent long-term reductions in ozone precursors and toxic air emissions.

In 1994, CARB submitted a SIP revision to the EPA to opt out of the federal clean-fuel fleet program and included a demonstration that California's low-emissions vehicle program achieved emissions reductions at least as large as would be achieved by the federal program. The EPA approved the SIP revision to opt out of the federal program on August 27, 1999.[147] There have been no changes to the federal Clean Fuels Fleet program since the EPA approved the California SIP revision to opt out of the federal program, and thus, no corresponding changes to the SIP are required. Thus, we find that the California SIP revision to opt out of the federal

[144] 75 FR 38023 (July 1, 2010).
[145] See also CAA sections 182(e).
[146] 80 FR 12264 (March 6, 2015).
[147] 64 FR 46849 (August 27, 1999).

program, as approved in 1999, meets the requirements of CAA sections 182(c)(4)(A) and 246 for the WMD for the 2008 ozone standards.

4. Gasoline Vapor Recovery

Section 182(b)(3) of the CAA requires states to submit a SIP revision by November 15, 1992, that requires owners or operators of gasoline dispensing systems to install and operate gasoline vehicle refueling vapor recovery ("Stage II") systems in ozone nonattainment areas classified as Moderate and above. California's ozone nonattainment areas implemented Stage II vapor recovery well before the passage of the CAA Amendments of 1990.[148]

Section 202(a)(6) of the CAA requires the EPA to promulgate standards requiring motor vehicles to be equipped with onboard refueling vapor recovery (ORVR) systems. The EPA promulgated the first set of ORVR system regulations in 1994 for phased implementation on vehicle manufacturers, and since the end of 2006, essentially all new gasoline-powered light- and medium-duty vehicles are ORVR-equipped.[149] Section 202(a)(6) also authorizes the EPA to waive the SIP requirement under CAA section 182(b)(3) for installation of Stage II vapor recovery systems after such time as the EPA determines that ORVR systems are in widespread use throughout the motor vehicle fleet. Effective May 16, 2012, the EPA waived the requirement of CAA section 182(b)(3) for Stage II vapor recovery systems in ozone nonattainment areas regardless of classification.[150] Thus, a SIP submittal meeting CAA section 182(b)(3) is not required for the 2008 ozone NAAQS.

While a SIP submittal meeting CAA section 182(b)(3) is not required for the 2008 ozone NAAQS, under California state law (i.e., Health and Safety Code section 41954), CARB is required to adopt procedures and performance standards for controlling gasoline emissions from gasoline marketing operations, including transfer and storage operations. State law also authorizes CARB, in cooperation with local air districts, to certify vapor recovery systems, to

[148] General Preamble, 57 FR 13498 at 13514 (April 16, 1992).
[149] 77 FR 28772, at 28774 (May 16, 2012).
[150] 40 CFR 51.126(b).

identify defective equipment and to develop test methods. CARB has adopted numerous revisions to its vapor recovery program regulations and continues to rely on its vapor recovery program to achieve emissions reductions in ozone nonattainment areas in California.

In the WMD, the installation and operation of CARB-certified vapor recovery equipment is required and enforced through AVAQMD Rule 461, "Gasoline Transfer and Dispensing," approved into the SIP on October 21, 2008, and MDAQMD Rule 461, "Gasoline Transfer and Dispensing," approved into the SIP on May 1, 2020.[151]

5. Enhanced Ambient Air Monitoring

Section 182(c)(1) of the CAA requires that all ozone nonattainment areas classified as Serious or above implement measures to enhance and improve monitoring for ambient concentrations of ozone, NO_X, and VOC, and to improve monitoring of emissions of NO_X and VOC. The enhanced monitoring network for ozone is referred to as the photochemical assessment monitoring station (PAMS) network. The EPA promulgated final PAMS regulations on February 12, 1993.[152]

On November 10, 1993, CARB submitted to the EPA a SIP revision addressing the PAMS network for six ozone nonattainment areas in California, including the WMD, to meet the enhanced monitoring requirements of CAA section 182(c)(1). The EPA determined that the PAMS SIP revision met all applicable requirements for enhanced monitoring and the EPA PAMS regulations and approved the PAMS submittal into the California SIP.[153]

Prior to 2006, the EPA's ambient air monitoring regulations in 40 CFR part 58, "Ambient Air Quality Surveillance," set forth specific SIP requirements (see former 40 CFR 52.20). In 2006, the EPA significantly revised and reorganized 40 CFR part 58.[154] Under revised 40 CFR

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[151] 76 FR 5277 (January 31, 2011) and 85 FR 25293 (May 1, 2020).
[152] 58 FR 8452 (February 12, 1993).
[153] 82 FR 45191 (September 28, 2017). This action addressed 1-hour ozone nonattainment areas. The area identified as Southeast Desert Modified Air Quality Management Area for the 1-hour ozone NAAQS has been split into two separate nonattainment areas for the 1997 and 2008 ozone NAAQS, the WMD and Riverside County (Coachella Valley).
[154] 71 FR 61236 (October 17, 2006).

part 58, SIP revisions are no longer required; rather, compliance with EPA monitoring regulations is established through review of required annual monitoring network plans.[155] The 2008 Ozone SRR made no changes to these requirements.[156]

The 2016 WMD Attainment Plan does not specifically address the enhanced ambient air monitoring requirement in CAA section 182(c)(1). However, we note that CARB includes the ambient monitoring network within the WMD in its annual monitoring network plan that is submitted to the EPA, and that we have approved the most recent annual monitoring network plan ("Annual Network Plan Covering Monitoring Operations in 25 California Air Districts, July 2020" or "2018 ANP"), which includes the enhanced ambient air monitoring element for the WMD.[157] Based on our review and approval of the 2020 ANP with respect to the WMD and our earlier approval of the PAMS SIP revision, we propose to find that CARB, AVAQMD and MDAQMD meet the enhanced monitoring requirements under CAA section 182(c)(1) for the WMD with respect to the 2008 ozone NAAQS.

6. CAA Section 185 Fee Program

Section 185 of the CAA requires that the SIP for each Severe and Extreme ozone nonattainment area provide that, if the area fails to attain by its applicable attainment date, each major stationary source of VOC and NO_X located in the area shall pay a fee to the state as a penalty for such failure for each calendar year beginning after the attainment date, until the area is redesignated as an attainment area for ozone. States are not yet required to submit a SIP revision that meets the requirements of CAA section 185 for the 2008 ozone NAAQS.[158]

IV. Proposed Action

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[155] 40 CFR 58.2(b) now provides that, "The requirements pertaining to provisions for an air quality surveillance system in the SIP are contained in this part."

[156] The 2008 ozone SRR addresses PAMS-related requirements at 80 FR 12264, 12291 (March 6, 2015).

[157] The EPA approved the 2020 ANP in a letter dated November 5, 2020, from Gwen Yoshimura, Manager, Air Quality Analysis Office, EPA Region IX, to Ravi Ramalingam, Chief, Consumer Products and Air Quality Assessment Branch, Air Quality Planning and Science Division, CARB.

[158] See 40 CFR 51.1117. For the WMD, a section 185 SIP revision for the 2008 ozone standards will be due on July 20, 2022.

For the reasons discussed in this notice, under CAA section 110(k)(3), the EPA is proposing to approve as a revision to the California SIP the following portions of the 2016 WMD Attainment Plan for the 2008 ozone NAAQS, submitted by CARB on June 2, 2017, and the 2018 SIP Update, submitted on December 11, 2018:

- Base year emissions inventory element in the 2016 WMD Attainment Plan as meeting the requirements of CAA sections 172(c)(3) and 182(a)(1) and 40 CFR 51.1115;
- Emissions statement element in the 2016 WMD Attainment Plan as meeting the requirements of CAA section 182(a)(3)(B) and 40 CFR 51.1102;
- RACM demonstration element in the 2016 WMD Attainment Plan, as meeting the requirements of CAA section 172(c)(1) and 40 CFR 51.1112(c);
- Attainment demonstration element in the 2016 WMD Attainment Plan as meeting the requirements of CAA section 182(c)(2)(A) and 40 CFR 51.1108;
- RFP demonstration element in the 2018 SIP Update as meeting the requirements of CAA sections 172(c)(2), 182(b)(1), and 182(c)(2)(B), and 40 CFR 51.1110(a)(2)(ii);
- VMT emissions offset demonstration element in the 2016 WMD Attainment Plan as meeting the requirements of CAA section 182(d)(1)(A) and 40 CFR 51.1102; and
- Motor vehicle emissions budgets in the 2018 SIP Update for the 2023 RFP milestone year and the 2026 attainment year (see Table 4 of this notice) because they are consistent with the RFP and attainment demonstrations proposed for approval herein and meet the other criteria in 40 CFR 93.118(e).

We are also proposing to find that the:

- California SIP revision to opt out of the federal Clean Fuels Fleet Program meets the requirements of CAA sections 182(c)(4)(A) and 246 and 40 CFR 51.1102 with respect to the WMD;
- Enhanced monitoring in the WMD meets the requirements of CAA section 182(c)(1) and 40 CFR 51.1102; and

- Enhanced vehicle inspection and maintenance program element in the WMD meets the requirements of CAA section 182(c)(3) and 40 CFR 51.1102.

Lastly, we are proposing, under CAA section 110(k)(4), to conditionally approve the contingency measure element of the 2016 WMD Attainment Plan as meeting the requirements of CAA sections 172(c)(9) and 182(c)(9) for RFP contingency measures. Our proposed approval is based on commitments by the District and CARB to supplement the element through submission, as a SIP revision (within one year of final conditional approval action), a MDAQMD Board resolution detailing the circumstances, timing, and procedure for implementing enhanced vehicle inspection and maintenance for areas within WMD currently subject to basic I/M, if an RFP milestone is not met or the area fails to attain the 2008 ozone NAAQS by the attainment date.

The EPA is soliciting public comments on the issues discussed in this document. We will accept comments from the public on this proposal for the next 30 days and will consider comments before taking final action.

V. Statutory and Executive Order Reviews

Under the Clean Air Act, the Administrator is required to approve a SIP submission that complies with the provisions of the Act and applicable federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, the EPA's role is to approve state choices, provided that they meet the criteria of the Clean Air Act. Accordingly, this proposed action merely proposes to approve state plans as meeting federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this proposed action:

- Is not a "significant regulatory action" subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011);
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.);

- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 et seq.);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Public Law 104-4);
- Does not have federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- Is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the Clean Air Act; and
- Does not provide the EPA with the discretionary authority to address disproportionate human health or environmental effects with practical, appropriate, and legally permissible methods under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, the SIP is not approved to apply on any Indian reservation land or in any other area where the EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, the proposed rule does not have tribal implications and will not impose substantial direct costs on tribal governments or preempt tribal law as specified by Executive Order 13175 (65 FR 67249, November 9, 2000).

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Nitrogen dioxide, Ozone, Reporting and recordkeeping requirements, Volatile organic compounds.

Authority: 42 U.S.C. 7401 *et seq.*

Dated: May 4, 2021.

Deborah Jordan,
Acting Regional Administrator,
Region IX.

[FR Doc. 2021-09842 Filed: 5/7/2021 8:45 am; Publication Date: 5/10/2021]